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Christine M. Liszewski, Associate Regional Counsel  
United States Environmental Protection Agency  
77 West Jackson Boulevard (C-14J)  
Chicago, IL 60604-3590

**RE: NL Industries, Inc. - Dutch Boy Site, Chicago, Illinois**

Dear Ms. Liszewski:

This letter responds to your recent telephone message to me, and to Brad Bradley's telephone message to Kevin Lombardozzi of NL Industries, Inc. ("NL"), regarding the Dutch Boy Site (the "Site") in Chicago, Illinois. Your message invited NL to a meeting with the United States Environmental Protection Agency ("USEPA") and the City of Chicago (the "City") to discuss the USEPA's request that additional remedial work be performed at the Site. That meeting would be scheduled for some time in June. Both your message to me and Mr. Bradley's message to Mr. Lombardozzi indicated that the USEPA intends to issue a Unilateral Administrative Order ("UAO") to NL and the City unless an Administrative Order on Consent ("AOC") can be negotiated.

As you know, NL has a history of cooperation with the USEPA with respect to the Site. Indeed, NL already completed remediation of the Site to the USEPA's satisfaction. However, NL cannot agree to enter into an AOC to perform additional work at the Site. The only reason that any additional work is necessary is to remedy environmental issues caused by the unilateral actions of the City in removing remedial caps installed by NL and spreading contaminated soil to clean areas of the Site. The resulting problem is the City's responsibility to correct, not only because the City created it, but because, under the terms of the City's judicially approved settlement agreement with NL, responsibility for further remediation at the Site rests with the City.

The USEPA should not allow itself to be dragged into the City's scheme to circumvent the consequences of the judicially approved settlement. If the City believes that its settlement with NL does not commit the City to implement any further remedial actions, the City's recourse is in a court of law, not through the USEPA. Under these circumstances, the issuance of a UAO

to NL would be an exercise in futility. NL clearly has a good faith defense to such a UAO. More fundamentally, however, the USEPA lacks a good faith basis even to issue a UAO to NL.

### **Background Regarding NL's Cleanup of the Site**

To provide some background that will assist your understanding of the reasons for NL's position, the following is a brief summary of the circumstances surrounding NL's remediation of the Site and settlement with the City.

On May 16, 1991, the City filed suit against NL and ARTRA Group, Inc. (formerly ELT, Inc., to which NL sold the Site in 1976) seeking to compel remediation of the Site. (See Consent Decree, attached as Exhibit A). This action resulted in the negotiation and execution of a Consent Decree between NL and the City to settle the litigation. The Consent Decree was entered by, and became a judicial order of, the Honorable Sidney A. Jones III of the Circuit Court of Cook County, Illinois. In March 1996, subsequent to the City's suit, the USEPA issued NL a UAO. (See UAO, attached as Exhibit B). The UAO required NL to prepare and implement a work plan to address lead contamination in soils such that Site soils would "not pose a threat of actual or potential exposure to lead to nearby human populations, animals or the food chain or be allowed to migrate off-site." (Ex. B at p. 9). NL prepared and the USEPA approved a Remedial Action Work Plan (the "Work Plan") for remediation of the Site. (See Work Plan, attached as Exhibit C). The Work Plan specified four elements of remedial action to be accomplished following preparation of the Site: (1) removal of underground storage tanks; (2) removal of existing debris piles; (3) remediation of certain, specified areas of soil; and (4) placement of paved caps on certain, identified areas. (Ex. C at pp. 9-18).

Certain specified portions of the Site that were unpaved were to be remediated by way of removal of contaminated soil and replacement with clean soil such that average lead concentrations did not exceed 1,400 mg/kg. (Ex. C at pp. 14-18). The Work Plan also specifically identified two paved areas (an 11,000 sq. ft. section in the southeast corner of the Site and a 5,400 sq. ft. section in the northwest corner of the Site) that were to be removed and under which NL was to remediate the soil such that its lead concentration was no greater than 1,400 mg/kg. (Ex. C at p. 15). As required by the Work Plan, the paving in these two areas was removed by NL, the soil underneath was remediated and clean fill was added. These two areas were not repaved following the remedial work. (See Map of Site, attached as Exhibit D).

The Work Plan did not require NL to remove the concrete and asphalt in the middle portion of the Site or to remove or otherwise remediate any contaminated soil underneath. (See generally Ex. C). Rather, the Work Plan required that these portions of the Site be "capped" or "patched" with asphalt that was two to three inches thick. (Ex. C at p. 18). Although the Work Plan called for "patching" certain cracked or broken areas of asphalt or concrete, NL took the remediation a step further by removing that broken concrete and asphalt entirely and remediating the soil beneath. (See Remedial Action Report, attached as Exhibit E, at p. 3).

The Consent Decree settling the City's litigation against NL specifically adopted and incorporated all of this work as appropriate remediation for the Site. Specifically, the settlement

between the City and NL: (1) adopted the Work Plan approved by the USEPA; (2) required NL to submit a supplemental work plan for approval by the City; (3) required NL to excavate, treat and dispose of hazardous waste and soils with lead concentrations above 1,400 mg/kg under certain, specifically identified paved areas; (4) required NL to remove the debris piles identified in the Work Plan; (5) stated that NL was only responsible for soil remediation costs up to \$400,000; (6) made the City responsible, upon completion of the remediation, to obtain a No Further Remediation Letter for the Site; and (7) made the City responsible for the operation and maintenance of the Site following remediation. (See Ex. A).

The Consent Decree specifically "incorporated by reference and made [the Work Plan] a part of this Consent Decree as though fully set forth herein." (Ex. A at p. 2) (emphasis added). In other words, unless specifically identified, the Consent Decree approved of the remediation set forth in the Work Plan, including the capped surfaces. As required by the Consent Decree, NL prepared and submitted a Supplemental Work Plan ("SWP"), which the City approved. (See Supplemental Work Plan, attached as Exhibit F). The SWP only identified five discrete areas on the Site (four of which were contiguous areas just north of center of the property and one of which was towards the northwest corner of the property) that were paved and from which NL agreed to remove the paving. (Ex. F at 3.2.1). NL also agreed to remediate the soil in these five areas without installing asphalt caps. Id. These were the only areas which, even though the original Work Plan called for them to be capped, the SWP stated were not to be capped. (See generally Ex. F). The SWP did not reference any other areas on the Site or require that NL had to remove any other remedial caps. Instead, the City adopted the remaining capped surfaces as the appropriate remedial measure for the remainder of the Site, which was to be capped under the Work Plan. NL completed the work required under the SWP in addition to the work required under the original Work Plan.

The work took place throughout the summer of 1999, and NL submitted its Remedial Action Report ("RAR") to the USEPA on December 22, 1999. (See Remedial Action Report, attached as Exhibit E). After reviewing the work, including the capped surfaces, the USEPA sent a letter to NL approving the RAR and commending NL on "a job well done." (See correspondence attached as Exhibit G). In other words, all of the work required under the UAO was complete. The City never indicated that it was opposed to the remedial caps, or that it felt further work was necessary. At this point, pursuant to section IX of the Consent Decree, it became the responsibility of the City to maintain and operate the Site and to obtain a "No Further Remediation Letter" from the State. (Ex. A at IX).

Moreover, by that point, NL had spent more than \$400,000 to perform the soil remediation required under the SWP. Pursuant to the Consent Decree, the City agreed that NL was not responsible for any remediation in excess of \$400,000 (Ex. A at II(3)(a)). In other words, the City essentially released NL from any liability for remediation beyond the first \$400,000 spent. Thus, since NL completed the cleanup as approved by the City, and spent more than \$400,000 to do so, the City could no longer bring any claim against NL for further remediation of the Site.

### **The City's Subsequent Disturbance of the Cap and Contamination of the Site**

Not long after the USEPA provided written approval of the completed remediation, the City entered the Site and began disturbing the remediated areas. Significantly, before removing the remedial measures that the USEPA had approved and to which the City had agreed, the City did not consult with the USEPA or NL. Through its unilateral destruction of the remedial measures, the City unearthed contaminated soil and proceeded to spread contaminated soil around the Site to areas that previously had been remediated. As is illustrated in the attached maps (Exhibits H, I, J and K), when NL finished remediating the Site in 1999, there was no contamination on the surface of the Site, and contaminated soils had either (1) been capped under paved surfaces or (2) removed and replaced with clean fill, ensuring that people visiting the Site would not be exposed to any hazardous material and that hazardous material would not migrate off-site.

### **The City's Attempt to Use the USEPA to Circumvent the Consent Decree**

The City's removal of the caps and spreading contaminated soil from these areas to other portions of the Site created the environmental issues that currently exist. The City then notified the USEPA that it should test the Site for contaminated soil, without informing the USEPA of its actions. Following the USEPA's testing, the City sent correspondence attaching responses to the USEPA's information request, but the City's letter and responses omitted that it was the City that had destroyed the USEPA-approved remedial measures and that, pursuant to the Consent Decree, NL had been released from any further obligation related to the Site. (See correspondence attached as Exhibit L). Knowing that its settlement with NL barred any claim against NL, the City decided to use the USEPA as a tool to do indirectly what it can not do directly, *i.e.*, to attempt to force NL to clean up the contamination problem caused by the City's actions.

Continuing its history of cooperation with the USEPA regarding the Site, NL maintained a dialogue with the USEPA and sought a meeting to explain and discuss the issues. (See Exhibits M, N and O). Meanwhile, NL notified the City that the City was responsible for the cleanup of the newly created environmental issues at the Site because (1) the City had caused the contamination by tearing up the approved, remedial concrete caps and by moving contaminated soil to other areas of the Site; (2) the City expressly assumed responsibility, pursuant to the parties' settlement, for the operation and maintenance of the Site; and (3) pursuant to the Consent Decree, the City released NL from any liability that NL might have had to perform remediation at the Site in excess of \$400,000, which NL has already spent. (See correspondence dated March 14, 2002 and September 9, 2002, attached as Exhibits P and Q).

The City responded by attempting to rely on technical language in a letter it had misled the USEPA into writing to NL. (See correspondence dated September 17, 2002 attached as Exhibit R). Further, the City took the position that, despite specifically adopting the capped surfaces as an appropriate remedial measure, it had never agreed to leave the caps in place and that NL had never asked it to leave the caps in place. *Id.*

The City's actions clearly are motivated by a desire to redevelop the Site. However, while it is typical for a developer who purchases remediated property to disturb remedial caps as part of a redevelopment, the City seeks an atypical result. It is the developer who will profit from the redevelopment who bears the costs that result from disturbance of the remedial measures. Here, the City is attempting to use the USEPA to shift these costs to NL.

### **Conclusion**

NL completed all of the work required under the 1996 UAO. NL completed all of the work necessary to ensure that Site soils would "not pose a threat of actual or potential exposure to lead to nearby human populations, animals or the food chain or be allowed to migrate off-site." In other words, NL performed all work required under the law for protection of public health and the environment. Any further remediation that the USEPA determines needs to be performed at the Site is the City's responsibility. Thus, any new UAO should be issued only to the City. NL should not be required to remediate the contamination caused by the City.

The remedy was completed to the USEPA's satisfaction, and the City knowingly removed the paved caps and spread contamination around the Site. The City agreed to the paved caps as part of the remedy of the Site. On the portions of the Site where the City did not want caps to remain, it negotiated an agreement with NL to remove the caps and remediate the soil in the City's designated areas. The City accepted the responsibility for maintaining the Site, including all remedial measures, and for paying for future remediation. The City knows, because of its judicially approved settlement with NL, that it cannot sue NL for performance of or reimbursement of the costs of a clean up of the environmental issues that the City's actions have created. Instead, the City is attempting to use the USEPA as a tool in an effort to circumvent the consequences of a settlement that the City now apparently views as improvident.

Under these circumstances, NL has no obligation to perform further remedial work at the Site and no intention of doing so. Respectfully, therefore, NL cannot agree to enter into an AOC with the USEPA to perform additional work at the Site. Moreover, the USEPA has neither the authority nor a good faith basis to issue a UAO to NL under these circumstances.

NL would be happy to meet with the USEPA and the City at a mutually convenient time in June to further discuss the basis for NL's position.

Very truly yours,



CHRISTOPHER R. GIBSON

cc: Brad Bradley  
Mort Ames



IN THE CIRCUIT COURT OF COOK COUNTY, ILLINOIS  
COUNTY DEPARTMENT, CHANCERY DIVISION

CITY OF CHICAGO,	)	
	)	
Plaintiff,	)	No. 91 CH 4534
	)	Judge Sidney A. Jones III
v.	)	
	)	
NL INDUSTRIES, INC. and	)	
ARTRA GROUP, INC.	)	
	)	
Defendants.	)	

**CONSENT DECREE**  
**BETWEEN THE CITY OF CHICAGO AND NL INDUSTRIES, INC.**

**WHEREAS**, Plaintiff City of Chicago ("the City") is a municipal corporation incorporated under the laws of the State of Illinois; and

**WHEREAS**, Defendant NL Industries, Inc. ("NL") is a New Jersey corporation which allegedly owned and operated a lead and paint manufacturing facility at or about 12000 to 12054 S. Peoria and 901-935 W. 120<sup>th</sup> Street in the West Pullman neighborhood of Chicago, Illinois ("the Site") until 1976; and

**WHEREAS**, in or about December of 1976, NL sold the Site to ARTRA Group, Inc. ("ARTRA"), which in or about 1979 transferred title to the Site to Goodwill Industries, which title was subsequently transferred to other persons; and

**WHEREAS**, on May 16, 1991, the City filed a complaint against NL and ARTRA in a case captioned *City of Chicago v. NL Industries and the Artra Group*, 91 CH 4534 (Circuit Court of Cook County) (the "Lawsuit"), alleging as to NL, that its past operation of the Site had caused the Site to become contaminated and thereby created a public nuisance; and

**WHEREAS**, the City acquired and currently holds the title to the Site, which the City

acquired through the tax reactivation process; and

**WHEREAS, NL has denied the allegations in the Lawsuit; and**

**WHEREAS, NL and the City wish to avoid the costs and uncertainties involved in further litigation and to resolve, as provided herein, the City's claims against NL related to its past ownership and operation of the Site; and**

**WHEREAS, the existence of this Consent Decree and the provisions contained herein shall not be deemed an admission of or constitute evidence by or against either party or an admission of liability by NL with regard to any of the allegations set forth in the City's Lawsuit;**

**NOW therefore, it is hereby agreed, adjudged, and ordered as follows:**

**I. DEFINITIONS**

1. Whenever terms listed below are used in this Consent Decree, the following definitions shall apply:

"City" shall mean the City of Chicago.

"NL" shall mean NL Industries, Inc.

"Remedial Design/Remedial Action Work Plan" or "RD/RA Work Plan" shall mean the remedial design/remedial action work plan for the Dutch Boy Site, prepared on or about March 9, 1999 by Environmental Strategies Corporation (ESC) on behalf of NL in accordance with the UAO and approved by the U.S. EPA, together with the Remedial Action Technical Specifications, the Project Health and Safety Plan, the Asbestos Abatement Work Plan, and the Remedial Action Design Drawings prepared by ESC in connection with and as part of the RD/RA Work Plan. The RD/RA Work Plan is incorporated by reference and made a part of this Consent Decree as though fully set forth herein.

"Site" shall mean the property located at or about 12000 to 12054 S. Peoria and 901-935 W. 120<sup>th</sup> Street in the West Pullman neighborhood of Chicago, Illinois. See Site map from RD/RA Work Plan attached as Exhibit A and map of Site parkway attached as Exhibit B.

"Site Access Agreement" shall mean the Right of Entry Agreement entered into on or about May 6, 1999, by and between the City of Chicago and NL Industries, Inc. granting NL access to the Site for the purpose of performing the work detailed in the RD/RA Work Plan or any other work plan and all subsequent renewals of said agreement. The Site Access Agreement is incorporated by reference and made a part of this Consent Decree as though fully set forth herein.

"Unilateral Administrative Order" or "UAO" shall mean the administrative order pursuant to section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. Section 9606 (a) and Section 7003 of the Resource Conservation and Recovery Act, as Amended, 42 U.S.C. § 6973, issued by the United States Environmental Protection Agency (U.S. EPA) on or about March 26, 1996 against NL in the matter captioned, *Dutch Boy Site, Chicago, Illinois, Respondent: NL Industries, Inc.*, Docket No. V-W-96-C-347.

## **II. REMEDATION**

2. (a) NL shall comply with the terms and conditions of the RD/RA Work Plan for all work specified therein.

(b) Within thirty (30) days of the entry of this Consent Decree, NL shall prepare and submit for the City's review and approval (which shall not unreasonably be withheld) a supplemental work plan for all work specified in paragraph 3 below.

3. NL shall also excavate, treat, and dispose of off-site, hazardous waste and soils with lead concentrations above 1,400 mg/kg under those paved areas on the Site identified as SS19, SS25,

SS26, SS27, and SS28, as identified on the map attached as Exhibit C, from the Risk Management Plan, Dutch Boy Site prepared by the Environ International Corporation (December, 1998), to at least the same extent and in accordance with the clean up standards set forth in Section 3.4 of the RD/RA Work Plan, subject to the following conditions and limitations:

- a) NL shall not be required to perform work to the extent that NL's expenditures for the excavation, treatment, and disposal of soils under paved areas SS19, SS25, SS26, SS27, and SS28 on the Site identified in paragraph 3 would exceed a maximum amount of Four Hundred Thousand Dollars (\$400,000.00). The City shall pay for all costs associated with removal and disposal of the pavement, as set forth in paragraph 3(f).
- b) The City shall pay for supplemental investigation of lead contamination under paved areas not identified in paragraph 3 above where sampling data currently indicates lead contamination increasing with depth, and the City shall have the option of requiring that NL excavate, treat, and dispose of soils in these additional areas so long as NL's maximum expenditure cap of Four Hundred Thousand Dollars (\$400,000.00) is not exceeded.
- c) If NL's expenditures for the excavation, treatment, and disposal of soils under paved areas identified in sub-paragraphs 3(a) and 3(b) above do not exceed Three Hundred Twenty-Five Thousand Dollars (\$325,000.00), NL shall pay to the City the difference between NL's actual expenditures and Three Hundred Twenty-Five Thousand Dollars (\$325,000.00).
- d) For purposes of determining the amount of the expenditures incurred by NL

under this paragraph, NL's cost shall be its actual expenditure at the Site; provided, however, that actual expenditures shall not include any unreasonable expenditure or any expenditure not required by paragraph 3. If a dispute arises between the City and NL regarding the reasonableness of an expenditure, the dispute shall be resolved as provided by Section X, paragraph 11, of this Consent Decree.

- e) In order to qualify as an expenditure towards NL's maximum expenditure cap, NL shall have submitted all costs and estimates for the work to be performed pursuant to paragraph 3 of this Consent Decree to the City for the City's review and approval (which shall not unreasonably be withheld) before proceeding with such work.
- f) The City shall review and approve all invoices presented by NL, unless there is a dispute subject to Section X, paragraph 11. The City shall reimburse NL for the cost of removing and disposing of pavement in the areas identified in sub-paragraphs 3(a) and 3(b) within sixty (60) days of receipt of invoices for such work from NL; provided, however, that prior to NL's proceeding with any pavement removal work required under paragraph 3, NL shall obtain an estimate for the pavement removal and obtain the City's approval of that estimate ( which shall not unreasonably be withheld). The City shall not be responsible for reimbursement of any pavement removal work performed by NL without the City's prior approval. The time period for NL's performance of any work that requires the City's approval shall be extended by the amount

of time taken by the City to give its approval. If, during the course of the work required under paragraph 3, NL discovers additional work that needs to be performed immediately in order to fulfill its obligations under paragraph 3, NL will not be required to obtain the City's prior approval to undertake the work if NL cannot reasonably seek approval without incurring additional cost.

### **III. UNDERGROUND STORAGE TANKS**

4. NL shall remove the underground storage tanks ("USTs") on the Site identified in the RD/RA Work Plan and remediate any soil contamination related to the USTs in accordance with the terms and conditions set forth in Section 3.2 of the RD/RA Work Plan; provided that if, during excavation of the USTs identified in the RD/RA Work Plan, NL encounters additional, as yet unknown USTs, NL shall remove those USTs and remediate any soil contamination related to those USTs in the same manner as provided in this paragraph.

### **IV. BASEMENT SLUDGE & SEDIMENT**

5. NL shall remove any basement sludge and sediment at the Site and dispose of any such sludge and sediment in a manner consistent with all applicable federal, state, and City of Chicago Municipal regulations, subject to the following conditions:

- a) NL's expenditures for basement sludge and sediment removal and disposal at the Site shall not exceed Fifty Thousand Dollars (\$50,000.00). NL's expenditures for basement sludge and sediment removal and disposal shall not accrue towards NL's maximum expenditure cap for excavation, treatment, and disposal of lead-contaminated soils set forth in paragraph 3.

- b) NL shall not be required to remove basement sludge and sediment that is under water; provided, however, that if the City removes the water, thereby making the sludge and sediment accessible, NL shall remove and dispose of the sludge and sediment, so long as the maximum expenditure cap for sludge and sediment removal and disposal set forth in paragraph 5(a) is not exceeded.
- c) NL shall not be required to remove any concrete or other barriers in order to remove basement sludge and sediment.
- d) NL shall submit to the City documentation of its expenditures for basement sludge and sediment removal and disposal.

**V. DEBRIS PILES**

6. NL shall remove and dispose of any debris piles on the Site identified in the RD/RA Work Plan in accordance with the terms and conditions set forth in Section 3.3 of the RD/RA Work Plan. NL shall not be required to remove railroad ties and tires present on the Site or unearthed during remediation work at the Site, but shall stockpile such materials for removal by the City. NL shall use reasonable efforts to ensure that no lead-contaminated soil in excess of 1,400 mg/kg remains adhered to the railroad ties and tires.

**VI. SITE ACCESS, INSURANCE, AND INDEMNITY**

7. NL's access to the Site shall be governed by the Site Access Agreement. At all times during the term of this Consent Decree, NL shall comply with the insurance and indemnity provisions set forth in the Site Access Agreement.

**VII. PROJECT SCHEDULE, PROGRESS REPORTS, AND STIPULATED PENALTIES**

8. NL shall complete the work required under this Consent Decree in accordance with the schedule set forth in the RD/RA Work Plan, including any extensions to that schedule as may be approved by U.S. EPA. NL shall have an additional sixty (60) days from completion of the RD/RA work to complete any work not covered by the RD/RA Work Plan.

- a) Upon request, NL shall also provide the City with copies of all reports required under Section 7.0 of the RD/RA Work Plan and any other reports or work summaries generated as a result of the tasks described in this Consent Decree.
- b) In the event that NL fails to complete the work set forth in paragraph 3 of this Consent Decree in accordance with the schedule set forth above, or fails to submit any material report required under this Consent Decree, or fails to comply materially with the Site Access Agreement during the term of this Consent Decree, then, upon a written notice of default to NL (which NL shall have thirty (30) days to cure without incurring a penalty), NL shall pay the City the sum of \$500 per day as a stipulated penalty for failures from the date that the failures first occurred until the date when the failures were cured. Payment of stipulated penalties under this paragraph shall not in any way limit the City's right to obtain any other relief to which it may be entitled to under this Consent Decree.

**VIII. NO FURTHER REMEDIATION LETTER**

9. Promptly upon entry of the Consent Decree, the City shall enroll the Site in the State

of Illinois Site Remediation Program, 35 Ill. Admin. Code § 740 et seq. In addition, the City shall work with the State to obtain a No Further Remediation letter for the Site, which letter shall be recorded with the deed to the Site, as provided by 35 Ill. Adm. Code § 740.620.

**IX. OPERATION AND MAINTENANCE**

10. Once NL completes the clean up activities required pursuant to the U.S. EPA's UAO and any additional work required pursuant to this Consent Decree, the City shall be responsible for any operation and maintenance costs associated with the Site.

**X. ENFORCEMENT AND PAYMENT OF COSTS**

11. If any dispute arises between the City and NL regarding the terms or conditions of this Consent Decree, prior to initiating a court action to enforce this Consent Decree, the City or NL must provide notice of the dispute to the other party and make a good faith effort to resolve the dispute. If either party's good faith effort to resolve the dispute fails to resolve the dispute within 14 days from the date notice of the dispute was provided to the other party, either party may seek judicial enforcement of this Consent Decree. If any party seeking judicial enforcement of this Consent Decree is determined by the Court to be the prevailing party, the non-prevailing party agrees to pay the prevailing party its reasonable costs, including attorneys fees, incurred in pursuing such action. In addition, if the dispute related to payment of costs under this Consent Decree, the non-prevailing party shall pay to the prevailing party interest.

12. The parties agree that the Circuit Court of Cook County, Illinois, shall have jurisdiction and venue with respect to any action commenced by any party for the purposes of interpretation and enforcement of the terms and conditions of this Consent Decree.

## **XI. MUTUAL RELEASE FROM LIABILITY**

13. For good and valuable consideration, including the actions that NL shall take pursuant to this Consent Decree, the City releases, waives, and discharges NL, its past and present affiliates, parents, subsidiaries, divisions, branches, departments, agencies, predecessors, successors, and the heirs, principals, employees, associates, owners, stockholders, assigns, devisees, agents, directors, officers, representatives, insurers, lawyers, and predecessors in interest, of each of them, and all persons acting by, through, under, or in concert with them from any and all claims, demands, damages, or losses, whether known or unknown, absolute or contingent, made or asserted or those that could be asserted by the City against NL related to the Site, including any claims arising out of any action NL has taken or failed to take with respect to the Site.

For good and valuable consideration, including the actions that the City shall take pursuant to this Consent Decree, NL releases, waives, and discharges the City itself and its elected and appointed officials, officers, agents, and employees from any and all claims, demands, damages, or losses, whether known or unknown, absolute or contingent, made or asserted or those that could be asserted by NL against the City related to the site, including any claims arising out of any action the City has taken or failed to take with respect to the Site.

However, nothing in this Consent Decree shall be construed as a waiver by the City of the right to prosecute or otherwise take action with regard to future violations with respect to conduct by NL occurring after the date of entry of the Consent Decree or any law based on new Site conditions or the terms and conditions of this Consent Decree or to obtain fines or penalties, if any, or any other relief with respect to future violations. Further, nothing in this Consent Decree shall be construed as a waiver by NL of any of its rights to enforce this Consent Decree, or defend itself

against any future claims, fines, penalties, or other actions arising from any alleged future violations or to assert or otherwise take action with respect to future violations by the City of NL's rights or interests.

14. If the City transfers title to the Site to another party and the City obtains any protections from the party acquiring the Site in regard to environmental conditions, the City shall make a reasonable good faith effort to obtain the same environmental protections provided to the City for NL.

**XII. TERM OF CONSENT DECREE**

15. Until such time as NL completes the work required under this Consent Decree and complies with all other requirements thereunder, this Court shall retain jurisdiction of this matter to enforce the provisions of this Consent Decree.

**XIII. NOTICE**

16. Whenever, under the terms of this Consent Decree, notice, correspondence, payment, or other written communication or information is required to be submitted or forwarded by one party to another, it shall be directed to the individuals at the addresses specified below, unless those individuals or other respective successors give written notice to the other party of another individual designed to receive such communications:

As to NL:

Marcus A. Martin  
Counsel for NL  
1630 30<sup>th</sup> Street, Suite 598  
Boulder, Colorado 80301  
Fax: (303) 442-3951

and

David B. Garten  
Vice President, General Counsel and Secretary  
NL Industries, Inc.  
16825 Northchase Dr., Suite 1200  
Houston, Texas 77060  
Fax: (281) 423-3333

As to the City:

Brian D. Bossert  
Assistant Corporation Counsel  
30 N. LaSalle Street, Suite 900  
Chicago, Illinois 60602  
Fax: (312) 744-6798

Notice shall be effective when received. Notice by fax is acceptable.

#### **XIV. MISCELLANEOUS**

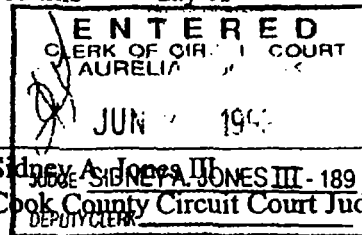
17. This Consent Decree represents the entire agreement and understanding among the parties. The recitals to this Consent Decree are incorporated into and are an integral part of this Consent Decree. All headings in this Consent Decree are provided as a matter of convenience only, and shall not govern or be used to interpret the meaning of any provisions in this Consent Decree.

18. The undersigned representative for each party certifies that he or she is fully authorized by the party whom he or she represents to enter into the terms and conditions of this Consent Decree, and to legally bind the party he or she represents to this Consent Decree.

19. This Consent Decree, and the rights, duties, and obligations hereunder, are expressly contingent upon the Court's entry of a good faith finding under the Illinois Joint Tortfeasors Contribution Act that this settlement is fair, reasonable, and in good faith, and which bars all claims, including cross-claims, against NL relating to the Site and dismisses the Lawsuit with prejudice. The

City and NL will cooperate with each other in drafting and filing any documents necessary to obtain this order.

So ordered this       day of       1999.



Date: *June 10, 1999*

FOR NL INDUSTRIES, INC.

By: *David B. Garten*  
David B. Garten  
Vice President, General Counsel  
and Secretary

Date: *June 9, 1999*

FOR THE CITY OF CHICAGO

BRIAN L. CROWE,  
Corporation Counsel

By: *Susan J. Herdina*  
Susan J. Herdina  
Deputy Corporation Counsel

Date: *6/9/99*

FOR THE CITY OF CHICAGO  
DEPARTMENT OF ENVIRONMENT

By: *William F. Abolt*  
William F. Abolt  
Commissioner

**IN THE CIRCUIT COURT OF COOK COUNTY, ILLINOIS  
COUNTY DEPARTMENT, CHANCERY DIVISION**

**CITY OF CHICAGO,**

Plaintiff,

v.

**NL INDUSTRIES, INC. et al.**

Defendants.

No. 91 CH 4534

**ORDER**

This cause coming before the Court upon Defendant NL Industries, Inc.'s Motion for Good Faith Finding and Dismissal, due notice having been given and the Court being fully advised in the premises,

**IT IS HEREBY ORDERED THAT**

1. The Consent Decree dated June 30, 1999 Settles and compromises disputed claims between plaintiff City of Chicago and defendant NL Industries, Inc., and is approved by this Court.
2. The settlement as reflected in the Consent Decree is approved by this Court as fair, reasonable and made in good faith under the Illinois Joint Tortfeasor Contribution Act, 740 ILCS 100/1 et seq..
3. The City of Chicago's cause of action against NL Industries, Inc. is hereby dismissed with prejudice, each party to bear its own costs.
4. This case shall remain pending against defendant The Artra Group, Inc.
5. All persons or potential tortfeasors are hereby barred from bringing or asserting any actions, claims, cross-claims, counter-claims, third-party claims, demands or causes of action

for contribution against NL Industries arising out of or in any way relating to the matters asserted in plaintiff's complaint.

Enter: _____	<b>ENTERED</b> CLERK OF CIRCUIT COURT AURELIA
Date: _____	JUN 1995
	JUDGE SIDNEY A. JONES III - 189
	DEPUTY CLERK _____

Robert J. Zaideman  
Zaideman & Esrig, P.C.  
120 S. Riverside Plaza  
Suite 1150  
Chicago, IL 60606  
312/207-0005  
Atty. No. 91578



JUN 29 1998



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

77 WEST JACKSON BOULEVARD

CHICAGO, IL 60604-3590

MAR 26 1996

REPLY TO THE ATTENTION OF:

SE-5J

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

Reed S. Oslan  
Kirkland & Ellis  
200 E. Randolph Drive  
Chicago, IL 60601

Re: Dutch Boy Site, Chicago, Illinois

Dear Mr. Oslan:

Enclosed please find a unilateral Administrative Order issued to NL Industries, Inc. ("NL") by the U.S. Environmental Protection Agency ("U.S. EPA") under Section 106 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986 ("CERCLA"), 42 U.S.C. Section 9601, et seq. Contrary to the views expressed in your November 28, 1995, letter to U.S. EPA that NL is not responsible for the present environmental conditions at the Dutch Boy Site (the "Site"), U.S. EPA believes that NL's operations at the Site between 1906 and 1977 did contribute to the lead contamination of the soils both on-Site and beyond Site boundaries. Potential releases of lead from NL's operations are documented in a February 14, 1996, Report prepared by Science Applications International Corporation under its contract with U.S. EPA. This report is enclosed for your information.

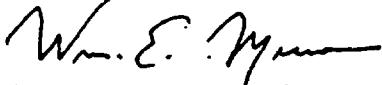
In your November 28, 1995, letter, you also expressed the opinion that U.S. EPA should defer to the pending City of Chicago court action which involves an identical request by the City to have NL remediate the Site. U.S. EPA has found that there may be an imminent and substantial endangerment to the public health, welfare or the environment because of an actual or potential release of hazardous substances from this Site. Thus, regardless of the pending City of Chicago action, U.S. EPA has invoked its authority under Section 106(a) of CERCLA, 42 U.S.C. § 9606(a), to abate any actual or potential threat to public health, welfare or the environment as soon as possible.

Please note that the Order allows an opportunity for a conference if requested within 3 business days after issuance of the Order, or if no conference is requested, an opportunity to submit comments within 7 business days of issuance of the Order.

312 742-0306

If you have any questions regarding the Order, feel free to contact Christine M. Liszewski, Special Assistant Regional Counsel, at (312) 886-4670 or Edward Hanlon, On-Scene Coordinator, at (312) 353-9228.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "Wm. E. Muno". The signature is fluid and cursive, with the first name "Wm." and last name "Muno" clearly distinguishable.

William E. Muno, Director  
Superfund Division

Enclosures

cc: Gary King  
Illinois Environmental Protection Agency

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Region 5

IN THE MATTER OF: ) Docket No. V-W- '96-C-347  
)  
Dutch Boy Site ) ADMINISTRATIVE ORDER  
Chicago, Illinois ) PURSUANT TO SECTION 106(a)  
) OF THE COMPREHENSIVE  
Respondent: ) ENVIRONMENTAL RESPONSE,  
) COMPENSATION, AND LIABILITY  
NL Industries, Inc. ) ACT OF 1980, AS AMENDED,  
) 42 U.S.C. SECTION 9606(a),  
) AND SECTION 7003 OF THE RESOURCE  
) CONSERVATION AND RECOVERY ACT,  
) AS AMENDED, 42 U.S.C. § 6973.

I. JURISDICTION AND GENERAL PROVISIONS

This Order is issued pursuant to the authority vested in the President of the United States by Section 106(a) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended ("CERCLA"), 42 U.S.C. § 9606(a), and Section 7003(a) of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act ("RCRA") and further amended by the Hazardous and Solid Waste Amendments of 1984, 42 U.S.C. § 6973(a), and delegated to the Administrator of the United States Environmental Protection Agency ("U.S. EPA") by Executive Order No. 12580, January 23, 1987, 52 Federal Register 2923, and further delegated to the Regional Administrators by U.S. EPA Delegation Nos. 14-14-A and 14-14-B, and to the Director, Waste Management Division, Region 5, by Regional Delegation Nos. 14-14-A and 14-14-B.

This Order pertains to property located at 12000 to 12054 South Peoria Street and 901 to 935 West 120th Street in Chicago, Illinois (the "Dutch Boy Site" or the "Site"). This Order requires the Respondent to conduct removal activities described herein to abate an imminent and substantial endangerment to the public health, welfare or the environment that may be presented by the actual or threatened release of hazardous substances at or from the Site.

U.S. EPA has notified the State of Illinois of this action pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9606(a), and Section 7003(a) of RCRA, 42 U.S.C. § 6973(a).

## II. PARTIES BOUND

This Order applies to and is binding upon Respondent and Respondent's heirs, receivers, trustees, successors and assigns. Any change in ownership or corporate status of Respondent including, but not limited to, any transfer of assets or real or personal property shall not alter such Respondent's responsibilities under this Order.

Respondent shall ensure that its contractors, subcontractors, and representatives comply with this Order. Respondent shall be responsible for any noncompliance.

## III. FINDINGS OF FACT

Based on available information, including the Administrative Record in this matter, U.S. EPA hereby finds that:

1. The Dutch Boy Site is located at 12000 to 12054 South Peoria Street and 901 to 935 West 120th Street, Chicago, Cook County, Illinois, Latitude 41 degrees 40 minutes 29 seconds north, Longitude 87 degrees 38 minutes 29 seconds west. The Site is located on a partially empty lot, with concrete building ruins on the east-central side. The Site is situated in a primarily industrial area. 120th Street borders the Site to the north, South Peoria Street borders the Site to the east, the Illinois Central Gulf Railroad borders the Site to the south, and an empty lot borders the Site to the west. The nearest residential areas are approximately 300 - 500 feet from the Site.
2. The Site is located in Block 7, and on a strip of land immediately south and adjacent to Block 7, in the first addition to West Pullman, a subdivision of the north east 1/4 of Section 29, Township 37 north, range 14 east of the Third Principal Meridian, located in the City of Chicago, Cook County, Illinois. The Site property consists of the eastern 375.20 feet of Block 7 (Parcel 1), and a strip of land, (Parcel 2) 375.20 feet by 30 feet, located immediately adjacent and south of Block 7. The Site property, which is rectangular in shape, occupies 5.00 acres in Parcel 1, and approximately 0.25 acres in Parcel 2.
3. Parcel 1 was owned by NL Industries, Inc. ("NL") from 1937 to 1976. NL sold this parcel to ELT, Inc. in 1976. ELT, Inc. subsequently changed its name to Dutch Boy, Inc. In 1980, Dutch Boy, Inc. transferred its interest in this parcel to Goodwill Industries of Chicago, Illinois ("Goodwill") through a charitable donation agreement. Legal title to this parcel was held by American National Bank and Trust Co. of Chicago in trust for Goodwill. Sometime after 1980, Dutch Boy, Inc. changed its name to ARTRA Group, Inc. ("ARTRA"). In 1982,

Goodwill sold its interest in Parcel 1 to John Heckens who subsequently sold his interest in Parcels 1 and 2 to M & T Enterprises, Inc. ("M & T") that same year. In 1984, M & T transferred its interest in Parcels 1 and 2 to Lavon Tarr who still has a beneficial interest in these parcels. Legal title is currently held by Cole-Taylor Bank (formerly known as Drover's Bank) in trust for Lavon Tarr.

4. NL manufactured lead and lead-based paints at the Dutch Boy Site from 1906 through mid-1977. ARTRA manufactured lead-based paints at the Site from 1977 until 1980, when it sold its paint division to the Sherwin-Williams Company and donated the property to Goodwill. No further paint manufacturing was conducted at the Site after ARTRA transferred its interest in the property to Goodwill.
5. In 1983, M & T entered into an agreement with Randall Polk d/b/a Wrip Wrecking Co. to raze the steel and brick building on the Site. Wrecking operations commenced in 1983 and were terminated in 1986, when the Illinois Department of Public Health ("IDPH"), the Illinois Environmental Protection Agency ("IEPA") and the City of Chicago found lead and asbestos dust created by demolition activities posed an imminent danger to the community.
6. In 1986, IDPH notified IEPA that it had received notice of five cases of lead poisoning that were traced to the Dutch Boy Site. Three of the lead poisoning cases were in children between the ages of 8 to 11 who were apparently playing on the Site. One case involved a scavenger who was working on the Site. The source of the lead poisoning was attributed to solid lead particles which collected inside of and on the building structure and became airborne when disturbed by wrecking operations. Asbestos was also detected inside the building structure.
7. In June 1986, IEPA initiated an immediate removal at the Site. This removal was done in three phases. During Phase I in June 1986, IEPA removed and disposed of surficial solids, both suspected and known to contain lead and/or asbestos. During Phase II in November 1986, IEPA sampled, analyzed and disposed of liquids, solids and sludges contained in all above-ground and underground storage tanks (USTs). IEPA also removed and disposed of all existing process/production equipment and debris located in and around the building, baghouses, mixing tanks, screw conveyors, hoppers, masonry rubble, and asbestos in and around the building. The freestanding walls of the building and all outbuildings were also demolished. During Phase III in 1987, IEPA assessed the structural integrity of the USTs and concluded that they were structurally sound and did not leak. IEPA also sampled and analyzed the soil for lead contamination. Results showed that 130 cubic yards of soil on and adjacent to the site contained greater than 5

milligrams per liter ("mg/L") of Extraction Procedure ("EP") toxicity lead and approximately 140 cubic yards of soil contained greater than 1% lead. An EP toxicity level equal to or greater than 5 mg/L was considered hazardous under the RCRA regulations in effect at that time. IEPA did not remove the soil.

8. In June 1987, Toxcon Engineering Company, Inc. ("Toxcon") conducted a field investigation at the Site on behalf of NL. Samples were taken at 34 locations on-Site and in the parkway across the street from the Site. Analytical results of lead samples taken at two locations indicated high total lead levels. A soil sample taken from the northeast portion of the Site had a total lead level of 11,400 milligrams per kilogram ("mg/kg") or parts per million ("ppm"). A second sample taken from the west side of the Site had a total lead level of 50,000 mg/kg. This sample also had an EP toxicity level of 41 mg/L. In addition, a third sample taken from the parkway northeast of the site had an EP toxicity level of 4.6 mg/L. Based on these sample results and discussions with IEPA, Toxcon conducted additional field sampling in February 1988 and concluded that there was one on-Site area and two off-Site areas containing EP toxicity lead greater than 5 mg/L.
9. In 1991, U.S. EPA's contractor, Ecology and Environment, Inc. ("E & E") conducted an off-site reconnaissance of the Dutch Boy Site. E & E observed no hazardous waste but found small piles of general household and construction refuse scattered throughout the Site. E & E also observed a homeless person occupying the 3-story building at the Site. Since abandoned building structures containing hazardous substances and contaminated soils surrounding these structures were still present at the Site, E & E concluded that release of hazardous substances to the air was still a potential threat to human health. E & E recommended that the Site be secured to prevent access by the public and that samples of the building structures and soils be taken to determine whether the release of hazardous substances from the Site posed a potential threat to the community.
10. On August 10, 1993, U.S. EPA, IEPA and E & E staff conducted a site assessment at the Dutch Boy Site. They observed that mattresses and a cooking area had been established at the Site and concluded that homeless persons may have temporarily sheltered there. They found no soil piles or exposed soils on the Site and took no soil samples.
11. On August 25 and 26, 1993, Simon Hydro-Search, Inc. ("Simon") conducted an environmental assessment at the Site on behalf of NL. Eleven soil samples were collected from seven on-Site locations. Results show elevated levels of lead in the soil in two areas. In the area of the loading dock/railroad spur on the west side of the Site, total lead levels as high on

45,700 mg/kg and Toxicity Characteristic Leaching Procedure ("TCLP") levels as high as 694 mg/L were found. In the parkway outside the northeast corner of the Site, a total lead level of 19,200 mg/kg and a TCLP level of 98.4 mg/L were found in one location. Any solid waste that contains lead at levels equal to a greater than 5 mg/L is regulated as a RCRA hazardous waste.

12. On May 10, 1994, Harza Environmental Services, Inc. ("Harza") conducted a site investigation at the Site on behalf of the City of Chicago. Harza collected and analyzed 13 wipe samples and 13 scrape samples from the 3-story mill building at the Site. Seven of the 13 wipe samples and 8 of the 13 scrape samples met the IDPH definition of a lead-bearing substance. Six soil samples retrieved from vertical depth intervals of between 6 and 15 feet were analyzed for TCLP lead. One other soil sample was collected at a depth interval of 1.0 and 2.5 feet. All soil samples had TCLP lead levels at below the RCRA level for hazardous waste.
13. On June 8, 1995, a U.S. EPA on-scene coordinator ("OSC") and staff from E & E and Harza Environmental Services, Inc. conducted another site assessment at the Dutch Boy Site. They found indications that vagrants were living at the Site. Six soil samples were collected and analyzed for lead. Total lead was detected in on-Site soils at concentrations ranging from 1,540 mg/kg to 31,700 mg/kg. A total lead level of 21,200 mg/kg was found in a sample collected from the east side of the building structure near a fire hydrant. A total lead level of 31,700 mg/kg was found in another sample collected from the east side of the northernmost loading dock on the west side of the Site. This sample also had a TCLP level of 351 mg/L. In its August 25, 1995 Site Assessment Report, E & E concluded that, since lead is a cumulative poison with documented acute and chronic health effects including kidney damage, anemia, decreased fertility, birth defects and depression of the central nervous system, the Dutch Boy Site should be secured and an extent of contamination study should be conducted to determine the extent of lead-contaminated soil present at the Site.
14. On November 17, 1995, U.S. EPA notified the present owner and the past owners and operators of the Site of their potential liability for cleanup of the Site. In addition, U.S. EPA requested that these potentially responsible parties (PRPs) notify U.S. EPA if they would be willing to enter into an administrative consent order under which they would perform or finance Site-cleanup activities. None of the PRPs agreed to enter into such an order with U.S. EPA.
15. In February 1996, U.S. EPA's contractor, Science Applications International Corporation ("SAIC"), reviewed a number of reports on the Dutch Boy Site and assessed the likelihood of a

potential release of lead from the manufacturing processes conducted at the Site. Using conservative estimates of air emissions, SAIC calculated that approximately 166 tons of lead were released into the air between 1906 and 1980 from the manufacturing activities at the Site. Assuming that each of the manufacturing processes at the Site had a short stack and low exit velocity and temperature, SAIC found that most of the stack emissions would have settled out within several hundred feet of the stack.

16. In March 1996, U.S. EPA prepared an interim final risk assessment for the Dutch Boy Site. The risk assessment assumed that the Site would be used for an occupational scenario and that it would not be frequented by small children. Based on these assumptions, U.S. EPA calculated a risk-based clean-up goal of 1,400 ppm as the average concentration of lead in soil which would allow for risks within an acceptable range. In addition, the risk assessor recommended that any hot spots which are significantly higher than the 1,400 ppm be remediated even if, when averaged, they contribute to an acceptable range of risk.

#### IV. CONCLUSIONS OF LAW AND DETERMINATIONS

Based on the Findings of Fact set forth above, and the Administrative Record supporting this removal action, U.S. EPA determines that:

1. The Dutch Boy Site is a "facility" as defined by Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).
2. Lead is a "hazardous substance" as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).
3. Respondent is a "person" as defined by Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).
4. Respondent NL is either a person who at the time of disposal of any hazardous substances owned or operated the Dutch Boy Site, or who arranged for disposal or transport for disposal of hazardous substances at the Dutch Boy Site. Respondent is therefore a liable person under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a).
5. The conditions described in the Findings of Fact above constitute an actual or threatened "release" into the "environment" as defined by Sections 101(8) and (22) of CERCLA, 42 U.S.C. §§ 9601(8) and (22).
6. The conditions present at the Site constitute a threat to public health, welfare, or the environment based upon the factors set forth in Section 300.415(b)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan, as amended

("NCP"), 40 C.F.R. Part 300. These factors include, but are not limited to, the following:

- a. actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, pollutants or contaminants:

This factor is present due to the existence of high levels of lead in the soils at the Site. Soil sample results have indicated total lead concentrations as high as 50,000 mg/kg in certain areas of the Site and total lead concentrations as high as 21,200 mg/kg in certain locations outside the Site. TCLP lead concentrations as high as 694 mg/L or 138 times the RCRA regulatory level were found on-Site. Lead is a cumulative poison with documented acute and chronic health effects. Five cases of lead poisoning in 1986 were traced to the Site. The Site is not secured and trespassers were observed at the Site on a number of occasions. In a risk assessment performed for this Site, a U.S. EPA risk assessor found that the average level of lead contamination at the Site would present an unacceptable level of risk to workers should the Site be used for commercial or industrial purposes.

- b. high levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate:

This factor is present at the Site due to the existence of high total lead levels and TCLP-lead concentrations at levels that characterize the contaminated soil as a hazardous waste under RCRA. The lead in the soil may migrate via runoff into storm sewers and road ditches after heavy rains and/or migrate via airborne dust particulates under dry weather conditions.

- c. weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released:

This factor is present at the Site due to the existence of high levels of lead in the soil and the potential for migration of lead-contaminated soils via runoff into storm sewers and road ditches after heavy rains and/or the potential for migration of lead through airborne dust particulates under dry weather conditions.

7. The actual or threatened release of hazardous substances from the Site may present an imminent and substantial endangerment to the public health, welfare, or the environment within the meaning of Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

8. The removal actions required by this Order are necessary to protect the public health, welfare, or the environment, and are not inconsistent with the NCP and CERCLA.

V. ORDER

Based upon the foregoing Findings of Fact, Conclusions of Law, Determinations, and the Administrative Record for this Site, U.S. EPA hereby orders that Respondent perform the following actions:

1. Notice of Intent to Comply

Respondent shall notify U.S. EPA in writing within 3 business days after the effective date of this Order of Respondent's irrevocable intent to comply with this Order. Respondent's failure to provide such notification within this time period shall be a violation of this Order.

2. Designation of Contractor, Project Coordinator, and On-Scene Coordinator

Respondent shall perform the removal actions itself or retain a contractor to implement the removal actions. Respondent shall notify U.S. EPA of Respondent's qualifications or the name and qualifications of such contractor(s), whichever is applicable, within 5 business days of the effective date of this Order. Respondent shall also notify U.S. EPA of the name and qualifications of any other contractors or subcontractors retained to perform work under this Order at least 5 business days prior to commencement of such work. U.S. EPA retains the right to disapprove of the Respondent or any of the contractors and/or subcontractors retained by the Respondent. If U.S. EPA disapproves a selected contractor, Respondent shall retain a different contractor within 2 business days following U.S. EPA's disapproval and shall notify U.S. EPA of that contractor's name and qualifications within 3 business days of U.S. EPA's disapproval.

Within 5 business days after the effective date of this Order, the Respondent shall designate a Project Coordinator who shall be responsible for administration of all the Respondent's actions required by the Order and submit the designated coordinator's name, address, telephone number, and qualifications to U.S. EPA. To the greatest extent possible, the Project Coordinator shall be present on-Site or readily available during site work. U.S. EPA retains the right to disapprove of any Project Coordinator named by the Respondent. If U.S. EPA disapproves a selected Project Coordinator, Respondent shall retain a different Project Coordinator within 3 business days following U.S. EPA's disapproval and shall notify U.S. EPA of that person's name and qualifications within 4 business days of U.S. EPA's disapproval. Receipt by Respondent's Project Coordinator of any notice or communication from U.S. EPA relating to this Order shall constitute receipt by Respondent.

U.S. EPA has designated Edward Hanlon as its OSC. Respondent shall direct all submissions required by this Order to the OSC at

77 W. Jackson Boulevard, SR-6J, Chicago, Illinois 60604-3590, by certified or express mail. Respondent shall also send a copy of all submissions to Christine M. Liszewski, Special Assistant Regional Counsel, 77 West Jackson Boulevard, CM-29A, Chicago, Illinois, 60606-3590. Respondent is encouraged to make its submissions to U.S. EPA on recycled paper (which includes significant post-consumer waste paper content where possible) and using two-sided copies.

### 3. Work to Be Performed

Respondent shall perform, at a minimum, the following response activities:

- a. Prepare and submit to U.S. EPA a plan for Site security. Implement the plan for Site security after receiving approval of the plan from U.S. EPA.
- b. Post signs warning passersby that hazardous substances are present at the Site.
- c. Perform an extent of contamination (EOC) survey that includes developing and implementing a Site sampling and analysis plan which will:
  - 1) identify the vertical and horizontal extent of on-Site soil contamination;
  - 2) determine the background concentrations of lead in soils in the vicinity of the Site;
  - 3) determine whether lead is present in levels above background concentrations beyond the boundaries of the Site and the extent of such contamination; and
  - 4) prepare and submit a summary report of the EOC survey to U.S. EPA.
- d. Upon approval of the EOC summary report by U.S. EPA, develop and submit a risk management plan to reduce the risks associated with the lead-contaminated soils both on-Site and beyond the boundaries of the Site. Any soils left exposed must not pose a threat of actual or potential exposure to lead to nearby human populations, animals or the food chain or be allowed to migrate off-site. The plan should consider various alternatives to reduce the risks, compare costs and protectiveness of each alternative, and recommend an alternative to be implemented that is cost-effective and protective of human health and the environment. The risk management plan should be consistent with the cleanup goal of 1,400 ppm that U.S. EPA calculated as the average concentration

of lead in soil that would allow for risk within an acceptable range under an occupational use scenario.

- e. Upon approval of the risk management plan and the Respondent's selected alternative by U.S. EPA, implement the approved alternative to abate the hazards associated with lead-contaminated soils both on-Site and beyond the boundaries of the Site.

### 3.1 Work Plan and Implementation

Within 10 business days after the effective date of this Order, the Respondent shall submit to U.S. EPA for approval a draft Work Plan for performing the removal activities set forth above. The draft Work Plan shall provide a description of, and an expeditious schedule for, the activities required by this Order.

U.S. EPA may approve, disapprove, require revisions to, or modify the draft Work Plan. If U.S. EPA requires revisions, Respondent shall submit a revised draft Work Plan within 7 business days of notification. Respondent shall implement the Work Plan as finally approved in writing by U.S. EPA in accordance with the schedule approved by U.S. EPA. Once approved, or approved with modifications, the Work Plan, the schedule, and any subsequent modifications shall be fully enforceable under this Order. Respondent shall notify U.S. EPA at least 48 hours prior to performing any on-Site work pursuant to the U.S. EPA approved work plan.

Respondent shall not commence or undertake any removal actions at the Site without prior U.S. EPA approval.

### 3.2 Health and Safety Plan

Within 10 business days after the effective date of this Order, the Respondent shall submit a plan for U.S. EPA review and comment that ensures the protection of the public health and safety during performance of on-Site work under this Order. This plan shall comply with applicable Occupational Safety and Health Administration (OSHA) regulations found at 29 C.F.R. Part 1910. If U.S. EPA determines it is appropriate, the plan shall also include contingency planning. Respondent shall incorporate all changes to the plan recommended by U.S. EPA, and implement the plan during the pendency of the removal action.

### 3.3 Quality Assurance and Sampling

All sampling and analyses performed pursuant to this Order shall conform to U.S. EPA direction, approval, and guidance regarding sampling, quality assurance/quality control (QA/QC), data validation, and chain of custody procedures. Respondent shall ensure that the laboratory used to perform the analyses

participates in a QA/QC program that complies with U.S. EPA guidance. Upon request by U.S. EPA, Respondent shall have such a laboratory analyze samples submitted by U.S. EPA for quality assurance monitoring. Respondent shall provide to U.S. EPA the quality assurance/quality control procedures followed by all sampling teams and laboratories performing data collection and/or analysis. Respondent shall also ensure provision of analytical tracking information consistent with OSWER Directive No. 9240.0-2B, "Extending the Tracking of Analytical Services to PRP-Lead Superfund Sites."

Upon request by U.S. EPA, Respondent shall allow U.S. EPA or its authorized representatives to take split and/or duplicate samples of any samples collected by Respondent or its contractors or agents while performing work under this Order. Respondent shall notify U.S. EPA not less than 3 business days in advance of any sample collection activity. U.S. EPA shall have the right to take any additional samples that it deems necessary.

#### 3.4 Reporting

Respondent shall submit a monthly written progress report to U.S. EPA concerning activities undertaken pursuant to this Order, beginning 30 calendar days after the date of U.S. EPA's approval of the Work Plan, until termination of this Order, unless otherwise directed by the OSC. These reports shall describe all significant developments during the preceding period, including the work performed and any problems encountered, analytical data received during the reporting period, and developments anticipated during the next reporting period, including a schedule of work to be performed, anticipated problems, and planned resolutions of past or anticipated problems.

#### 3.5 Final Report

Within 60 calendar days after completion of all removal actions required under this Order, the Respondent shall submit for U.S. EPA review a final report summarizing the actions taken to comply with this Order. The final report shall conform to the requirements set forth in Section 300.165 of the NCP. The final report shall also include a good faith estimate of total costs incurred in complying with the Order, a listing of quantities and types of materials removed, a discussion of removal and disposal options considered for those materials, a listing of the ultimate destinations of those materials, a presentation of the analytical results of all sampling and analyses performed, and accompanying appendices containing all relevant documentation generated during the removal action (e.g., manifests, invoices, bills, contracts, and permits).

The final report shall also include the following certification signed by a person who supervised or directed the preparation of that report:

Under penalty of law, I certify that, to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of this report, the information submitted is true, accurate, and complete.

4. Access to Property and Information

Respondent shall provide or obtain access as necessary to the Site and all appropriate off-site areas, and shall provide access to all records and documentation related to the conditions at the Site and the activities conducted pursuant to this Order. Such access shall be provided to U.S. EPA employees, contractors, agents, consultants, designees, representatives, and State of Illinois representatives. These individuals shall be permitted to move freely at the Site and appropriate off-site areas in order to conduct activities which U.S. EPA determines to be necessary. Respondent shall submit to U.S. EPA, upon request, the results of all sampling or tests and all other data generated by Respondent or its contractor, or on the Respondent's behalf during implementation of this Order.

Where work under this Order is to be performed in areas owned by or in possession of someone other than Respondent, Respondent shall obtain all necessary access agreements within 14 calendar days after the effective date of this Order, or as otherwise specified in writing by the OSC. Respondent shall immediately notify U.S. EPA if, after using its best efforts, it is unable to obtain such agreements. Respondent shall describe in writing its efforts to obtain access. U.S. EPA may then assist Respondent in gaining access, to the extent necessary to effectuate the response activities described herein, using such means as U.S. EPA deems appropriate.

5. Record Retention, Documentation, Availability of Information

Respondent shall preserve all documents and information, in its possession or the possession of its contractors, subcontractors or representatives, relating to work performed under this Order, or relating to the hazardous substances found on or released from the Site, for six years following completion of the removal actions required by this Order. At the end of this six year period and at least 60 days before any document or information is destroyed, Respondent shall notify U.S. EPA that such documents and information are available to U.S. EPA for inspection, and upon request, shall provide the originals or copies of such documents and information to U.S. EPA. In addition, Respondent shall provide documents and information retained under this Section at any time before expiration of the six year period at the written request of U.S. EPA.

#### 6. Off-Site Shipments

All hazardous substances, pollutants or contaminants removed off-site pursuant to this Order for treatment, storage or disposal shall be treated, stored, or disposed of at a facility in compliance, as determined by U.S. EPA, with the U.S. EPA Off-Site Rule, 40 C.F.R. § 300.440, 58 Federal Register 49215 (Sept. 22, 1993).

#### 7. Compliance With Other Laws

All actions required pursuant to this Order shall be performed in accordance with all applicable local, state, and federal laws and regulations except as provided in CERCLA Section 121(e) and 40 C.F.R. Section 300.415(i). In accordance with 40 C.F.R. Section 300.415(i), all on-Site actions required pursuant to this Order shall, to the extent practicable, as determined by U.S. EPA, considering the exigencies of the situation, attain applicable or relevant and appropriate requirements under federal environmental or state environmental or facility siting laws.

#### 8. Emergency Response and Notification of Releases

If any incident, or change in Site conditions, during the activities conducted pursuant to this Order causes or threatens to cause an additional release of hazardous substances from the Site or an endangerment to the public health, welfare, or the environment, the Respondent shall immediately take all appropriate action to prevent, abate or minimize such release, or endangerment caused or threatened by the release. Respondent shall also immediately notify the OSC or, in the event of his/her unavailability, shall notify the Regional Duty Officer, Emergency and Enforcement Response Branch, Region 5 at (312) 353-2318, of the incident or Site conditions.

Respondent shall submit a written report to U.S. EPA within 7 business days after each release, setting forth the events that occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release. Respondent shall also comply with any other notification requirements, including those in CERCLA Section 103, 42 U.S.C. § 9603, and Section 304 of the Emergency Planning and Community Right-To-Know Act, 42 U.S.C. § 11004.

### VI. AUTHORITY OF THE U.S. EPA ON-SCENE COORDINATOR

The OSC shall be responsible for overseeing the implementation of this Order. The OSC shall have the authority vested in an OSC by the NCP, including the authority to halt, conduct, or direct any work required by this Order, or to direct any other response action undertaken by U.S. EPA or Respondent at the Site. Absence of the

OSC from the Site shall not be cause for stoppage of work unless specifically directed by the OSC.

U.S. EPA and Respondent shall have the right to change their designated OSC or Project Coordinator. U.S. EPA shall notify the Respondent, and Respondent shall notify U.S. EPA, as early as possible before such a change is made, but in no case less than 24 hours before such a change. Notification may initially be made orally, but shall be followed promptly by written notice.

#### VII. PENALTIES FOR NONCOMPLIANCE

Violation of any provision of this Order may subject Respondent to civil penalties of up to \$25,000 per violation per day, as provided in Section 106(b)(1) of CERCLA, 42 U.S.C. § 9606(b)(1). Respondent may also be subject to punitive damages in an amount up to three times the amount of any cost incurred by the United States as a result of such violation, as provided in Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3). Should Respondent violate this Order or any portion hereof, U.S. EPA may carry out the required actions unilaterally, pursuant to Section 104 of CERCLA, 42 U.S.C. § 9604, and/or may seek judicial enforcement of this Order pursuant to Section 106 of CERCLA, 42 U.S.C. § 9606.

#### VIII. REIMBURSEMENT OF COSTS

Respondent shall reimburse U.S. EPA, upon written demand, for all response costs incurred by the United States in overseeing Respondent's implementation of the requirements of this Order. U.S. EPA may submit to Respondent on a periodic basis a bill for all response costs incurred by the United States with respect to this Order. U.S. EPA's Itemized Cost Summary, or such other summary as certified by U.S. EPA, shall serve as the basis for payment.

Respondent shall, within 30 days of receipt of the bill, remit a cashier's or certified check for the amount of those costs made payable to the "Hazardous Substance Superfund," to the following address:

U.S. Environmental Protection Agency  
Superfund Accounting  
P.O. Box 70753  
Chicago, Illinois 60673

Respondent shall simultaneously transmit a copy of the check to the Director, Superfund Division, U.S. EPA Region 5, 77 West Jackson Blvd., Chicago, Illinois, 60604-3590. Payments shall be designated as "Response Costs - Dutch Boy Site" and shall reference the payor's name and address, the U.S. EPA site identification number ZZ, and the docket number of this Order.

Interest at a rate established by the Department of the Treasury pursuant to 31 U.S.C. § 3717 and 4 C.F.R. § 102.13 shall begin to accrue on the unpaid balance from the day after the expiration of the 30 day period notwithstanding any dispute or an objection to any portion of the costs.

#### IX. RESERVATION OF RIGHTS

Nothing herein shall limit the power and authority of U.S. EPA or the United States to take, direct, or order all actions necessary to protect public health, welfare, or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants or contaminants, or hazardous or solid waste on, at, or from the Site. Further, nothing herein shall prevent U.S. EPA from seeking legal or equitable relief to enforce the terms of this Order. U.S. EPA also reserves the right to take any other legal or equitable action as it deems appropriate and necessary, or to require the Respondent in the future to perform additional activities pursuant to CERCLA or any other applicable law.

#### X. OTHER CLAIMS

By issuance of this Order, the United States and U.S. EPA assume no liability for injuries or damages to persons or property resulting from any acts or omissions of Respondent. The United States or U.S. EPA shall not be a party or be held out as a party to any contract entered into by the Respondent or its directors, officers, employees, agents, successors, representatives, assigns, contractors, or consultants in carrying out activities pursuant to this Order.

This Order does not constitute a pre-authorization of funds under Section 111(a)(2) of CERCLA, 42 U.S.C. § 9611(a)(2).

Nothing in this Order constitutes a satisfaction of or release from any claim or cause of action against the Respondent or any person not a party to this Order, for any liability such person may have under CERCLA, other statutes, or the common law, including but not limited to any claims of the United States for costs, damages and interest under Sections 106(a) or 107(a) of CERCLA, 42 U.S.C. §§ 9606(a), 9607(a).

#### XI. MODIFICATIONS

Modifications to any plan or schedule may be made in writing by the OSC or at the OSC's oral direction. If the OSC makes an oral modification, it will be memorialized in writing within 7 business days; however, the effective date of the modification shall be the date of the OSC's oral direction. The rest of the Order, or any

other portion of the Order, may only be modified in writing by signature of the Director, Superfund Division, Region 5.

If Respondent seeks permission to deviate from any approved plan or schedule, Respondent's Project Coordinator shall submit a written request to U.S. EPA for approval outlining the proposed modification and its basis.

No informal advice, guidance, suggestion, or comment by U.S. EPA regarding reports, plans, specifications, schedules, or any other writing submitted by the Respondent shall relieve Respondent of its (their) obligations to obtain such formal approval as may be required by this Order, and to comply with all requirements of this Order unless it is formally modified.

#### XII. NOTICE OF COMPLETION

After submission of the Final Report, Respondent may request that U.S. EPA provide a Notice of Completion of the work required by this Order. If U.S. EPA determines, after U.S. EPA's review of the Final Report, that all work has been fully performed in accordance with this Order, except for certain continuing obligations required by this Order (e.g., record retention), U.S. EPA will provide written notice to the Respondent. If U.S. EPA determines that any removal activities have not been completed in accordance with this Order, U.S. EPA will notify the Respondent, provide a list of the deficiencies, and require that Respondent modify the Work Plan to correct such deficiencies. The Respondent shall implement the modified and approved Work Plan and shall submit a modified Final Report in accordance with the U.S. EPA notice. Failure to implement the approved modified Work Plan shall be a violation of this Order.

#### XIII. ACCESS TO ADMINISTRATIVE RECORD

The Administrative Record supporting these removal actions is available for review during normal business hours in the U.S. EPA Record Center, Region 5, 77 W. Jackson Blvd., Seventh Floor, Chicago, Illinois. Respondent may contact Christine M. Liszewski, Special Assistant Regional Counsel, at (312) 886-4670 to arrange to review the Administrative Record. An index of the Administrative Record is attached to this Order.

#### XIV. OPPORTUNITY TO CONFER

Within 3 business days after issuance of this Order, Respondent may request a conference with U.S. EPA. Any such conference shall be held within 5 business days from the date of the request, unless extended by agreement of the parties. At any conference held

pursuant to the request, Respondent may appear in person or be represented by an attorney or other representative.

If a conference is held, Respondent may present any information, arguments or comments regarding this Order. Regardless of whether a conference is held, Respondent may submit any information, arguments or comments (including justifications for any assertions that the Order should be withdrawn against a Respondent), in writing to U.S. EPA within 2 business days following the conference, or within 7 business days of issuance of the Order if no conference is requested. This conference is not an evidentiary hearing, does not constitute a proceeding to challenge this Order, and does not give Respondent a right to seek review of this Order. Requests for a conference shall be directed to Christine M. Liszewski, Special Assistant Regional Counsel, at (312) 886-4670. Written submittals shall be directed as specified in Section V.2 of this Order.

#### XV. SEVERABILITY


If a court issues an order that invalidates any provision of this Order or finds that Respondent has sufficient cause not to comply with one or more provisions of this Order, Respondent shall remain bound to comply with all provisions of this Order not invalidated by the court's order.

#### XVI. EFFECTIVE DATE

This Order shall be effective 10 business days following issuance unless a conference is requested as provided herein. If a conference is requested, this Order shall be effective 5 business days after the day of the conference.

IT IS SO ORDERED.

BY:

  
William E. Munro, Director  
Superfund Division  
United States  
Environmental Protection Agency  
Region 5

DATE:

3/26/96

## ATTACHMENT A

## U.S. ENVIRONMENTAL PROTECTION AGENCY

106 ADMINISTRATIVE ORDER  
ADMINISTRATIVE RECORD  
FOR  
DUTCH BOY PAINT PLANT SITE  
CHICAGO, ILLINOISORIGINAL  
March 22, 1996

<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
09/08/87	Finkelstein, R., Toxcon Engineering Company, Inc.	Carlson, R., Illinois EPA	Letter re: Analytical Results, Phase III Site Investigation, Dutch Boy Paint Plant, Chicago, IL	13
08/09/88	Finkelstein, R., Toxcon Engineering Company, Inc.	Carlson, R., Illinois EPA	Letter re: Analytical Results, Phase III Supplemental Site Investigation, Dutch Boy Paint Plant, Chicago, IL	12
10/30/91	Dunnigan, M., Ecology & Environment, Inc.	Altur, A. U.S. EPA	Memorandum re: Preliminary Assessment, Executive Summary, Carter White Lead Site, Chicago, IL	3
10/30/91	Dunnigan, M., Ecology & Environment, Inc.	Altur, A. U.S. EPA	Memorandum re: Off-site Reconnaissance of the Carter White Lead Site, Chicago, IL	1
00/00/93	Committee on Measuring Lead in Critical Populations, National Research Council		Measuring Lead Exposure in Infants, Children, and Other Sensitive Populations (National Academy Press, Washington, D.C., 1993)	180

<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
05/05/93	U.S. EPA		Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure (Preliminary Review Draft)	20
11/00/93	Simon Hydro- Search, Inc.	NL Industries, Inc.	Environmental Assessment Report, 120th and Peoria Streets, Chicago, IL	110
12/29/93	Ecology & Environment, Inc.	U.S. EPA	Site Assessment Report for Carter White Lead, Chicago, IL	19
00/00/94	Bowers, T., Beck, B., & Karam, H.		Assessing the Relationship Between Environmental Lead Concentrations and Adult Blood Lead Levels (Risk Analysis, Vol. 14, No 2, 1994)	7
02/00/94	U.S. EPA		Guidance Manual for the Integrated Exposure Uptake Biokinetic Model for Lead in Children	248
06/00/94	Harza Environmental Services, Inc.	City of Chicago	Limited Soil Investigation and Paint Sampling, Former Dutch Boy Paint Site, Chicago, IL (Appendices Not Included)	9
07/14/94	Laws, E., U.S. EPA	Regional Administrators	Memorandum re: Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities	25

<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
07/27/94	Brody, D., et al		Blood Lead Levels in the US Population: Phase 1 of the Third National Health & Nutrition Examination Survey (Journal of the American Medical Assn., Vol. 272, No. 4)	7
12/30/94	Bennett, D., U.S. EPA	U.S. EPA	Memorandum re: Distribution of the Federal Register Announcement of Availability and Request for Comment on the Draft Soil Screening Guidance	26
11/17/94	Balbus- Kornfeld, J.,	U.S. EPA	Comments and Recommendations on the Draft Interim Guidance for Screening Levels of Lead in Soil for Non-Residential Sites w/Cover Letter	13
04/00/95	Roy F. Weston, U.S. EPA Inc.	U.S. EPA	Baseline Human Health Risk Assessment for the California Gulch Superfund Site, Part C: Evaluation of Worker Scenario	60
08/18/95	Ecology & Environment, Inc.	U.S. EPA	Site Assessment for International Harvester/Dutch Boy Site, Chicago, IL, Part 1 of 2	75
08/25/95	Ecology & Environment, Inc.	U.S. EPA	Site Assessment for International Harvester/Dutch Boy Site, Chicago, IL, Part 2 of 2	107

<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
10/00/95	U.S. EPA		Review of a Methodology for Establishing Risk-Based Soil Remediation Goals for Commercial Areas of the California Gulch Site	51
01/00/96	U.S. EPA, Office of Public Affairs		Public Meeting Fact Sheet for International Harvester and Dutch Boy Sites, Chicago, IL	3
02/14/96	Whitford, K., Science Applications International Corporation	Simon, M., U.S. EPA	Letter re: Technical Review and Comments on the Potential Release of Lead from the Manufacturing Processes Conducted at the Dutch Boy Superfund Site	70
03/20/96	Pullen, L., U.S. EPA	Hanlon, H., U.S. EPA	Memorandum re: Interim Final Risk Assessment for Dutch Boy Site	12

ATTACHMENT B

LIABILITY FILE INDEX FOR NL INDUSTRIES, INC.

<u>Document Summary</u>	<u>Document Date</u>
Warranty Deed pertaining to property located at 12042 S. Peoria Street, Chicago, IL. Grantor: Carter White Lead Company. Grantee: National Lead Company.	12/36
Warranty Deed pertaining to property located at 12042 S. Peoria Street, Chicago, IL. Grantor: NL Industries, Inc. Grantee: ELT, Inc.	12/76
Letter from F.R. Baser, Director, Environmental Control Department, NL Industries, Inc. to Regional Administrator, EPA. RE: Completion and enclosure of "EPA Notification of Hazardous Waste Site" forms.	06/09/81
EPA Potential Hazardous Waste Site, Preliminary Assessment. Site location 12042 S. Peoria Street, Chicago, IL.	03/27/84
Letter from Michael J. Najeweski, Senior Claims Representative, INA Insurance Co., to Donald Gimbel, Legal Department, IEPA, RE: Potential claim for damages and request for IEPA file information.	09/22/86
Letter and memorandum from Janet D. Smith, NL Industries, Inc., to Richard Carlson, IEPA. RE: NL's liability for removal.	03/02/87
An Alternate Remedial Investigation/Remedial Action Plan for Dutch Boy Paints Site. Plan submitted by Toxcon Engineering Co. on behalf of NL Industries, Inc.	Undated.
Investigation of the Former Dutch Boy Site. Prepared by Toxcon on behalf of NL Industries, Inc. (2 reports).	Undated
Phase III Site Investigation Plan for the Dutch Boy Paint Plant Site. Prepared by Toxcon on behalf of NL Industries, Inc.	Undated
Letter from William C. Child, Manager, Division of Land Pollution Control, IEPA, to NL Industries, Inc. RE: Cost recovery notice letter.	04/09/87

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Letter from Robert Finkelstein, Engineer, Toxcon, to IEPA, Attention Mary Dinkel. RE: Analytical results - site investigation Dutch Boy Paints Plant.	09/08/87
Letter from Robert Finkelstein, Engineer, Toxcon, to IEPA, Attention Brian Martin. RE: Analytical results - supplemental site investigation Dutch Boy Paints Plant.	08/09/88
NL Industries, Inc. Environmental Impairment Liability Insurance Coverage.	Undated
Preliminary Assessment. Prepared for Alan Altur, U.S. EPA, by Mark Dunnigan, E & E.	10/30/91
Memorandum. Prepared for Alan Altur, U.S. EPA, by Mark Dunnigan, E & E.	10/30/91
Complaint for Declaratory Judgment and Other Relief, filed by the City of Chicago in case of City of Chicago v. NL Industries, Inc. and ARTRA Group, Inc. Docket No. 91CH04534.	1991
Transcript of Deposition. City of Chicago v. NL Industries, Inc. and ARTRA Group, Inc. Deposition of Chester Licking, retired chief engineer, NL Industries, Inc.	2/24/92
Transcript of Deposition. City of Chicago v. NL Industries, Inc. and ARTRA Group, Inc. Deposition of Roger N. Cieslik, Chicago Department of Health.	04/30/92
Transcript of Deposition. City of Chicago v. NL Industries, Inc. and ARTRA Group, Inc. Deposition of Clarence P. Smith, retired plant manager NL Industries, Inc.	06/23/92
Environmental Assessment Report. Prepared by Simon Hydro-Search, Inc., on behalf of NL Industries, Inc.	11/93
Site Assessment for Carter White Lead. Prepared for U.S. EPA by E & E.	12/29/93
Witness statements from former NL Industries, Inc. and ARTRA Group, Inc. employees.	1995

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Transcript of Deposition. City of Chicago v. NL Industries, Inc. and ARTRA Group, Inc. Deposition of Mark Finn, former OSHA inspector. 7/31/95  
12/15/95

Site Assessment for International Harvester/Dutch Boy Site, Part 2 of 2. Prepared for U.S. EPA by E & E. 8/25/95

Technical Review and Comments on the Potential Release of Lead from the Manufacturing Processes Conducted at the Dutch Boy Superfund Site prepared by Science Applications International Corporation for U.S. EPA. 02/14/96





**ENVIRONMENTAL STRATEGIES CORPORATION**

11911 Freedom Drive • Reston, Virginia 20190 • (703) 709-6500 • Fax (703) 709-8505

**REMEDIAL DESIGN/REMEDIAL ACTION WORK PLAN**

**DUTCH BOY SITE  
CHICAGO, ILLINOIS**

**PREPARED**

**BY**

**ENVIRONMENTAL STRATEGIES CORPORATION**

**MARCH 9, 1999**

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- Appendix C - Remedial Action Design Drawings
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**Acronym List**

ACM	asbestos-containing material
API	American Petroleum Institute
bgs	below ground surface
CGI	combustible gas indicator
EOC	Extent of Contamination
Environ	Environ International Corporation
EPA	U.S. Environmental Protection Agency
EP	extraction procedure
ESC	Environmental Strategies Corporation
E&E	Ecology and Environment, Inc.
Harza	Harza Environmental Services, Inc.
IAC	Illinois Administrative Code
IDPH	Illinois Department of Public Health
IEPA	Illinois Environmental Protection Agency
mg/kg	milligrams per kilogram
mg/l	milligrams per liter
NESHAP	National Emission Standard for Hazardous Air Pollutants
NL	NL Industries, Inc.
OSC	On-Scene Coordinator
QAO	Quality Assurance Officer
QAPP	Quality Assurance Project Plan
RACM	regulated asbestos-containing material
RCRA	Resource Conservation and Recovery Act
RD/RA	Remedial Design/Remedial Action
SAIC	Science Applications International Corporation
Simon	Simon Hydro-Search, Inc.
TACO	Tiered Approach to Corrective Action Objectives
TCLP	Toxicity Characteristic Leaching Procedure
Toxcon	Toxcon Engineering Company, Inc.
UAO	Unilateral Administrative Order
XRF	X-ray fluorescence

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## 1.0 Introduction

### 1.1 General

Environmental Strategies Corporation (ESC) on behalf of NL Industries, Inc. (NL) has prepared this Remedial Design/Remedial Action (RD/RA) Work Plan (Work Plan) for the Dutch Boy site in Chicago, Cook County, Illinois. The purpose of the Remedial Action is to mitigate and manage risks posed by lead present in shallow soil at the site. The objective of the Remedial Action is to reduce the threat to human health and the environment posed by surface soil containing concentrations of lead above the United States Environmental Protection Agency (EPA) established risk-based cleanup goal for lead of 1,400 milligrams per kilogram (mg/kg).

The RD/RA is submitted in accordance with the terms of the March 26, 1996, Unilateral Administrative Order (UAO)<sup>1</sup> issued to NL by the EPA. Specifically, the RD/RA is designed to implement the EPA-approved alternative to abate the risks associated with lead-containing soil at the site. The approved alternative was detailed in the Risk Management Plan prepared by Environ International Corporation (Environ), dated December 1998. This Work Plan has been prepared in accordance with guidance developed by the EPA Office of Emergency and Remedial Response<sup>2</sup>.

### 1.2 Summary of Selected Alternative

The Risk Management Plan for the Dutch Boy Site (December 1998) detailed options for mitigating the risks associated with lead-containing soil at the site. The plan considered various alternatives to reduce the risks, compared costs and protectiveness of each alternative, and recommended an alternative to be implemented that was cost-effective and protective of human health and the environment. Alternative 4 from the Risk Management Plan was selected for the Remedial Action. This alternative consists of excavation, treatment, and disposal of all soil in the unpaved areas of the site and soil identified in the parkway area on the north and east sides of

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<sup>1</sup> United States Environmental Protection Agency, (USEPA 1996). Administrative Order Pursuant to Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as Amended, 42 U.S.C. Section 9606(a), and Section 7003 of the Resource Conservation and Recovery Act, as Amended, 42 U.S.C. 6973. March 26, 1996.

<sup>2</sup> United States Environmental Protection Agency, (USEPA 1986). Superfund Remedial Design and Remedial Action Guidance, OSWER Directive 9355-0-4A. June 1986.

the site containing total lead concentrations greater than the EPA's risk-based cleanup criteria of 1,400 mg/kg. Approximately 4,500 cubic yards of lead-containing soils will be excavated and treated onsite by stabilization to eliminate the characteristic of toxicity (nonhazardous). The treated soil will be disposed of offsite at a landfill permitted under Subtitle D of the Resource Conservation and Recovery Act (RCRA). This alternative achieves the objective of the Remedial Action by eliminating the potential for direct contact and ingestion of lead in unpaved, onsite soils.

The paved areas of the site consist primarily of concrete slabs from former site buildings with some asphalt-paved areas. This alternative includes the repair of damaged onsite concrete surfaces. A 2-3 inch thick asphalt-pavement cap will be placed over areas of the existing concrete surface which are not intact and provide a potential direct-contact exposure pathway to lead-containing soil. Provisions for the maintenance of the asphalt cap will be defined in this plan to maintain its integrity.

Two construction debris piles are present on the southern and southwestern portions of the site. The piles contain approximately 850 cubic yards of material. Each pile contains debris from the post-1980 demolition activities. Because the 800 cubic yard pile contains pieces of corrugated transite material containing asbestos at concentrations up to 11 percent, the pile is considered a regulated asbestos-containing material (RACM) under the National Emission Standard for Hazardous Air Pollutants (NESHAP). The removal action for this pile will include development of an asbestos abatement plan by an Illinois-certified project designer; implementation of proper removal methods, such as material wetting, containment and collection of water used for wetting, plastic lining of dumpsters, and proper disposal; monitoring of removal activities by an Illinois-certified project monitor; implementation of worker protective measures; and submission of a 10-day notification before removal work commences.

Nine underground storage tanks are present at the site. The available information indicates that most of the tanks contained linseed oil, which is not a regulated substance. Two of the tanks likely contained regulated substances but, due to their age, may be grandfathered. The storage tanks are located under the concrete slab on the west-central portion of the site and have an aggregate capacity of approximately 150,000 gallons. Liquids, solids, and sludges contained

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in the tanks were previously removed by the Illinois Environmental Protection Agency (IEPA). The underground storage tanks will be closed by removal during the Remedial Action.

NL is currently working with the owner (the City of Chicago) to determine the best mechanism(s) for the long-term management and control of the site. This could include mechanisms such as deed restrictions or other monitoring/control techniques to be implemented and controlled by the owner.

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## **2.0 Site Description**

### **2.1 Site Location and Description**

The Dutch Boy site facility is located at 12000 to 12054 South Peoria Street and 901 to 935 West 120<sup>th</sup> Street, Cook County, Chicago, Illinois (Figures 1 and 2, Appendix A). The site comprises 5.2 acres and is situated in a primarily industrial area. It is bound to the north by West 120<sup>th</sup> Street, to the east by South Peoria Street, to the south by rail lines of the Illinois Central Gulf Railroad, and to the west by an empty lot.

There are no buildings standing at the site although concrete building slab foundations cover much of the site. Approximately 75-percent of the site is under concrete cover, approximately 5-percent is under asphalt cover, and the remaining 20-percent is soil covered. The concrete slabs are believed to be up to 1-foot thick. The unpaved areas run in strips from north to south along the western edge of the property and extend to the southeast corner of the site. The unpaved areas likely are associated with the former railroad spurs that crossed the property.

### **2.2 Site History**

From 1906 to 1980, the site was used to manufacture and refine white lead (i.e., lead carbonate) and lead oxide for lead-based paints and other lead-related products. No manufacturing has been conducted at the site since 1980. Based on previous reviews of Sanborn maps and historical aerial photographs, building demolition occurred at the site from the mid-1980s through 1996.

Various industrial activities have been conducted in the immediate vicinity of the site, including an aluminum foundry, metal machining shops, vehicle and heavy equipment maintenance and storage, junkyards, coal yards, and other metal treatment, forging finishing, and pickling operations. However, most of the properties surrounding the site are currently abandoned or vacant, it is likely that historic activities at these facilities have influenced lead concentrations in soils in the vicinity of the Dutch Boy site.

## **2.3 Topography**

The site surface is generally flat. Most of the site is either at ground surface or elevated approximately four feet to loading-dock level. The ground elevation at the site is approximately 610 feet above mean sea level (United States Geological Survey 7.5' Blue Island, Illinois Quadrangle, 1993). Area topography generally slopes to the south towards the Little Calumet River located over 1 mile south of the site.

## **2.4 Summary of Previous Investigations**

Environmental investigations began at the site in 1986 with an IEPA-conducted removal action. This removal was done in three phases. IEPA removed and disposed of surficial solids, both suspected and known to contain lead and asbestos during Phase I in June 1986.

IEPA sampled, analyzed and disposed of liquids, solids and sludges contained in all aboveground and underground storage tanks during Phase II in November 1986. IEPA also removed and disposed of all existing process and production equipment, baghouses, mixing tanks, screw conveyors, hoppers, masonry rubble, asbestos, and debris located in and around the building. The freestanding walls of the buildings were demolished during Phase II. IEPA assessed the structural integrity of the underground storage tanks and concluded that they were structurally sound and did not leak during Phase III in 1987. IEPA also sampled and analyzed soil for lead. Results indicated that 130 cubic yards of soil on and adjacent to the site contained Extraction Procedure (EP) toxicity extract lead concentrations greater than 5 milligrams per liter (mg/l) and approximately 140 cubic yards of soil contained greater than 1 percent lead. An EP toxicity extract lead concentration equal to or greater than 5 mg/l was defined as a hazardous waste under the RCRA regulations in effect at that time. The soil was not removed.

In June 1987, Toxcon Engineering Company, Inc. (Toxcon) conducted a field investigation at the site on behalf of NL. Samples were collected at 34 locations onsite and in the parkway across the street from the site. A soil sample taken from the northeast portion of the site contained a total lead concentration of 11,400 mg/kg. A second sample taken from the west side of the site contained 50,000 mg/kg of total lead. This second sample also had an EP toxicity extract lead concentration of 41 mg/l. In addition, analysis of a third sample taken from the parkway northeast of the site had an EP toxicity lead extract concentration of 4.6 mg/l. Based on

these sample results and discussions with IEPA, Toxcon conducted additional field sampling in February 1988 and concluded that one onsite area and two offsite areas contained EP toxicity extract lead concentrations greater than 5 mg/l.

In 1991, EPA's contractor, Ecology and Environment, Inc. (E & E) conducted a reconnaissance at the Dutch Boy site. E & E observed small piles of general household and construction refuse scattered over the site. Since abandoned building structures containing potentially hazardous substances and lead-containing soils surrounding these structures were still present, E & E concluded that release of hazardous substances to the air was still a potential threat to human health. E & E recommended that the site be secured to prevent access by the public and that samples of the building structures and soils be taken to determine whether the release of hazardous substances from the site posed a potential threat to the community.

On August 10, 1993, EPA, IEPA and E & E conducted a site assessment of the Dutch Boy property. No soil piles or exposed soils were identified at the site and no soil samples were collected. On August 25 and 26, 1993, Simon Hydro-Search, Inc. (Simon) conducted an environmental assessment of the site on behalf of NL. Eleven soil samples were collected from seven onsite locations. In samples from the area of the loading dock and railroad spur on the west side of the site, total lead concentrations as high as 45,700 mg/kg and Toxicity Characteristic Leaching Procedure (TCLP) lead extract concentrations as high as 694 mg/l were measured. In the road outside the northeast corner of the site, a total lead concentration of 19,200 mg/kg and a TCLP lead extract concentration of 98.4 mg/l were measured in a sample. A TCLP extract lead concentration equal to or greater than 5 mg/l is defined as a RCRA hazardous waste (hazardous waste code D008).

On May 10, 1994, Harza Environmental Services, Inc. (Harza) conducted a site investigation on behalf of the City of Chicago. Harza collected and analyzed 13 wipe samples and 13 scrape samples from the former 3-story mill building at the site. Seven of the 13 wipe samples and 8 of the 13 scrape samples met the Illinois Department of Public Health (IDPH) definition of a lead-bearing substance. Six soil samples collected from depths between 6 and 15 feet below ground surface (bgs) were analyzed for TCLP lead. One other soil sample was collected at a depth of 1.0 to 2.5 feet bgs. All soil samples had TCLP lead concentrations at or below the 5.0 mg/l RCRA concentration for hazardous waste.

On June 8, 1995, an EPA on-scene coordinator (OSC) and staff from E & E and Harza conducted another site assessment. Six soil samples were collected and analyzed for lead. Total lead was detected in onsite soils at concentrations ranging from 1,540 mg/kg to 31,700 mg/kg. A total lead concentration of 21,200 mg/kg was reported in a sample collected from the east side of the building structure near a fire hydrant. A total lead concentration of 31,700 mg/kg was reported in another sample collected from the east side of the northernmost loading dock on the west side of the site. This sample also had a TCLP lead extract concentration of 351mg/l. In an August 25, 1995, Site Assessment Report, E & E concluded that the site should be secured and an extent of contamination study should be conducted to determine the extent of lead-containing soil at the site.

In February 1996, EPA's contractor, Science Applications International Corporation (SAIC), reviewed the available reports on the site and assessed the likelihood of a potential release of lead from the historic manufacturing processes. SAIC calculated that approximately 166 tons of lead were released into the air between 1906 and 1980 from the historic manufacturing activities. Assuming that each of the manufacturing processes site had a short stack, low exit velocity, and low temperature, SAIC predicted that most of the emissions would have settled out within several hundred feet.

In March 1996, EPA prepared an interim final risk assessment for the site. The risk assessment assumed that the site would be used for an occupational scenario and that it would not be frequented by small children. Based on these assumptions, EPA calculated a risk-based clean-up goal of 1,400 mg/kg as the average concentration of lead in soil, which would allow for risks within an acceptable range. In addition, the risk assessment recommended that any hot spots which are significantly higher than the 1,400 mg/kg be remediated even if, when averaged, they contribute to an acceptable range of risk.

In 1997 an Extent of Contamination (EOC) survey was conducted for the site by Environ Corporation. The primary objective of the EOC survey was to evaluate the vertical and horizontal extent of lead in soil at the site and in its vicinity. Over 350 samples from 151 locations were collected and analyzed. The extent of onsite soils containing lead at concentrations greater than the 1,400 mg/kg average risk-based cleanup criteria was found to be generally limited to the western, unpaved portions of the site. The areas most affected are the

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former rail spurs leading to the loading dock in the northwestern portion of the site. Surface soil (i.e., 0.0 to 0.2 feet bgs) lead concentrations in the rail spur area range from 5,000 to 10,000 mg/kg.

Selected soil samples also were analyzed for several other parameters (e.g., asbestos, petroleum hydrocarbons, and volatile organic compounds) to evaluate their impact on remedial technologies for the lead-containing soil. Diesel-related petroleum hydrocarbons were identified in soil samples collected near the loading dock in the northwest portion of the site. The petroleum-hydrocarbon impacted soil is confined to the immediate vicinity of the underground storage tanks. Based on the concentrations of hydrocarbons detected at the site, it is unlikely that they will affect the technology selected to address lead-containing soil.

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### **3.0 Description of Remedial Action**

The Remedial Action selected for the Dutch Boy site consists of the following components (in order of planned execution):

- Underground storage tank closures
- Debris pile removal and offsite disposal
- Lead-containing soil excavation and sampling
- Backfilling and compaction of excavated areas
- Soil stabilization
- Offsite disposal
- Asphalt-pavement cap placement
- Implementation of maintenance program (note: May be implemented and controlled by owner)

Appendix B contains the design specifications detailing the requirements for implementation of the Remedial Action. The Division 1 specifications detail the general requirements for the management and execution of the Remedial Action. The Division 2 specifications detail the specific tasks required to execute the Remedial Action as follows:

- Section 02071 - detailed requirements and procedures for closure of the underground storage tanks if required by applicable regulations.
- Section 02110 - detailed requirements for preparing the site including clearing, grubbing, and chipping of vegetative matter from the excavation areas.
- Section 02205 - detailed requirements for soil materials that shall be used as unclassified fill for the backfill and suitable material for topsoil.
- Section 02211 - detailed grading requirements to bring grades to proper elevations using on site material.
- Section 02216 - detailed requirements for the geotextile to be used in the stabilized construction entrance.
- Section 02222 - detailed requirements for excavation of soil from the unpaved areas of the site.
- Section 02223 - detailed requirements for backfilling and compacting the excavation areas and underground storage tank areas.
- Section 02274, 02275, and 02276 - detailed requirements for erosion and sedimentation controls to be implemented at the site.

- Section 02445 - detailed requirements for stabilizing the excavated lead-containing soil that exhibits the characteristic of toxicity at the site.
- Section 02513 - detailed requirements for the asphalt caps to be placed over damaged concrete surfaces at the site.

Appendix C (provided under separate cover) contains design drawing sheets 1 through 5 which detail plans for completion of the Remedial Action. Sheet 1 is a title sheet for the drawing set. Sheet 2 provides a general site plan of the property. Sheet 3 provides plans for site preparation work and erosion and sediment control measures to be implemented during the Remedial Action. Sheet 4 shows the areas to be excavated, the onsite treatment areas, and the areas to be capped. Sheet 5 provides details for erosion and sediment control measures, soil treatment, excavation restoration, and asphalt placement.

### 3.1 Site Preparation

Site preparation will consist of implementing erosion and sedimentation control measures. The specifications presented in the U.S. Department of Agriculture, Natural Resource Conservation Service's guidance titled "Illinois Urban Manual: A Technical Manual Designed for Urban Ecosystem Protection and Enhancement" were used as guidelines for the erosion and sediment control measures at the site. A stabilized construction entrance will be constructed at the north site gate; site ingress and egress is not anticipated from the southeast gate. This control measure is designed to mitigate sediment transport onto public roads. A silt fence will be placed along various portions of the site perimeter not covered with concrete surfaces. Straw bale fences will be placed along various portions of the site perimeter with concrete surfaces. These control measures are designed to intercept and detain sediment from disturbed areas.

### 3.2 Underground Storage Tank Closures

Nine underground storage tanks are present along the western side of the site. The tanks are empty and reportedly have an aggregate capacity of approximately 150,000 gallons and stored linseed oil and petroleum products. In June 1986, the IEPA disposed of liquids, solids, and sludges contained in all tanks at the site. Therefore, the storage tanks are presumed empty. In 1987, IEPA assessed the structural integrity of the tanks and concluded that they were structurally sound and did not leak.

The available information indicates that most of the tanks contained linseed oil, which is not a regulated substance. Two of the tanks likely contained regulated substances but, due to their age, may be grandfathered. The underground storage tanks will be closed by removal in accordance with the requirements of Title 35 of the Illinois Administrative Code (IAC), Subtitle G, Part 731, Underground Storage Tanks; and Part 732, Petroleum Underground Storage Tanks. Removal of the tanks will be performed in accordance with the American Petroleum Institute (API) Bulletin No. 1604, Recommended Practice for Closure of Underground Storage Tanks. Additionally, the underground storage tank closure requirements of the City of Chicago, Department of Environment, and the Office of the Illinois State Fire Marshal, Division of Petroleum and Chemical Safety, will be followed.

### 3.2.1 Underground Storage Tank Removal

A minimum of thirty days prior to removal of the underground storage tanks, an "Application for Permit to Remove Underground Storage Tanks for Petroleum and Hazardous Tanks" will be filed with the City of Chicago, Department of Environment. The application will include information on the site, the tank owner, and the tanks. The application will be submitted by the tank removal contractor. The removal contractor will be registered with the State of Illinois Fire Marshall's Office and the City of Chicago, Department of Environment. Removal of the tanks will not proceed until the permit to remove has been received.

Before excavation, product present in lines will be drained back to the tanks and removed. Excavation of the tanks will begin after an exclusion zone is established around the removal area. The concrete slab above the tanks will be removed and placed with the construction debris to be disposed of offsite. The soil above the tanks will be excavated to expose the tops of the tanks and the fill and vent lines. This soil will be placed in the treatment area to be constructed for onsite stabilization of lead-containing soil (Section 3.4.2). The soil will be covered with a minimum of 10-mil thick plastic sheeting.

Once the tops of the tanks are exposed, all piping will be drained (if necessary) and removed. Exposed pipe trenches will remain open until a Tank Specialist from the City of Chicago inspects them. Liquids collected in the storage tanks, if any, will be removed using an explosion-proof pump and stored in a temporary aboveground storage tank equipped with secondary containment.

The atmosphere in the underground storage tanks and the excavation area will be monitored with a Combustible Gas Indicator (CGI), for flammable or combustible vapor concentrations until the tanks are removed from both the excavations and the site. Monitoring of the storage tanks will be performed at three levels in the tanks (bottom, middle, and top). Flammable vapors will be purged from the tanks using either solid carbon dioxide (dry ice), compressed air, or a diffused air blower. After the tanks have been vented, all accessible tank holes will be plugged or capped, leaving one 1/8-inch diameter vent hole. Excavation will then continue around the tanks to prepare them for removal.

A Tank Specialist from the City of Chicago will be onsite before cutting and cleaning operations or removal of the tanks proceeds. Once a Tank Specialist is onsite, the storage tanks will be removed from the excavations using a hydraulic excavator or crane. The ends of each storage tank will be cut open (a minimum of 9 square feet on each opposite end) on the day it is excavated to prevent additional vapors from accumulating in the tank. The tanks will be removed offsite for proper recycling at a scrap metal dealer. A certificate of destruction will be obtained verifying disposal of the tanks. A Notification for Underground Storage Tanks form will be filed with the Office of the Illinois State Fire Marshal, Division of Petroleum and Chemical Safety within 30 days after the closure of the storage tanks. The notification form will serve to document closure of the tank.

### 3.2.2 Confirmatory Sampling

After the storage tanks have been removed, soil samples will be collected from each tank excavation. In accordance with the IEPA's Leaking Underground Storage Tank Manual, Fall 1991, a minimum of six soil samples will be collected (one from each side and end wall and one from the bottom representative of each tank end) from individual tank excavations. If the tank excavations are contiguous, soil samples will be collected from the excavation walls at a frequency of 1 per 10 linear feet. Two soil samples will be collected from the base of each tank excavation. Samples from the excavation side and end walls will be collected from points along the wall which were parallel to the lower third of the tank. Samples collected from the excavation bottom will represent the location of the tank invert and will include both tank ends. If groundwater is encountered, a grab sample will be collected to assess the potential for impacts.

An investigation of the distribution lines, if present, will also be performed. If a release is identified along former distribution lines, soil samples will be collected. Samples will be collected from below the area where the lines had existed at approximately 20-foot intervals.

Soil and groundwater will be analyzed for benzene, ethylbenzene, toluene, and xylenes by EPA Method 8260, polynuclear aromatic hydrocarbons by EPA Method 8310 and total lead by EPA Method 6010B. Samples will be collected and managed in accordance with the Quality Assurance Project Plan (QAPP), prepared under separate cover. Analytical results will be compared to IEPA's Tiered Approach to Corrective Action Objectives (TACO) IAC 35, Part 742.

If the analytical results do not indicate a release, all storage tank excavations and trenches will be backfilled using offsite backfill. Off-site backfill will be non-saturated, well-graded soil provided by a local source, and will be certified free of hazardous substances and deleterious material, such as large roots, rocks, or vegetative matter. The backfill will be placed into the excavations in maximum 8-inch lifts and compacted at each lift.

### **3.2.3 Release Reporting/Response Actions**

If it is determined through sampling and laboratory analysis that a release from an underground storage tank has occurred, the Illinois Emergency Management Agency will be notified within 24 hours of the determination. After reporting the release, response actions and assessments will be conducted as specified in IAC 35, Subtitle G, Part 732.

### **3.3 Debris Pile Removal and Disposal**

Two construction debris piles are present on the southern and southwestern portions of the site. The piles contain approximately 850 cubic yards of material. Each pile contains debris from the post-1980 demolition activities. The Extent of Contamination Survey, dated November 19, 1997, prepared by Environ, identified asbestos-containing material in the 800 cubic yard debris pile. Specifically, two of four samples collected from the pile were determined to contain greater than 1 percent asbestos. The 800 cubic yard pile is therefore considered a regulated asbestos-containing material (RACM) under the National Emission Standard for Hazardous Air Pollutants (NESHAP). The removal action for this pile will include development of an asbestos abatement plan by an Illinois-certified project designer; implementation of proper removal

methods, such as material wetting, containment and collection of water used for wetting, plastic lining of dumpsters, and proper disposal; monitoring of removal activities by an Illinois-certified project monitor; implementation of worker protective measures; and submission of a 10-day notification before removal work commences. The concrete excavated during the underground storage tank removal as well as the asphalt present in the southeast and northwest corners (reference Section 3.4.1) of the site will be disposed of as demolition debris with the 50 cubic yard debris pile.

### **3.4 Soil Remediation**

Remediation will consist of excavation, onsite stabilization, and offsite disposal of soil in the unpaved areas of the site, soil identified in the parkway area, and accessible sediments in the basement of the former mill building containing lead concentrations greater than the EPA's risk-based cleanup criteria of 1,400 mg/kg. Approximately 4,500 cubic yards of lead-containing soils will be excavated. The excavated soils will be placed in 100-cubic yard stockpiles within the treatment area. Each pile will be sampled and tested for the lead toxicity characteristic. If the sample contains less than 5.0 mg/l lead as measured in the TCLP extract, the soil will be transported to a Subtitle D landfill for proper disposal. If the sample contains more than 5.0 mg/l lead as measured in the TCLP extract, the soil will be treated onsite by stabilization with a reagent to render it nonhazardous. Treated soil will be sampled to verify successful treatment and disposed of offsite at a Subtitle D landfill.

Unless significant delays are encountered during the removal of the underground storage tanks or the debris piles, soil remediation will not begin until the underground storage tanks and debris piles have been removed from the site.

#### **3.4.1 Excavation Plan**

As presented in the Risk Management Plan, lead was detected above the 1,400 mg/kg threshold in most borings in the unpaved areas of the site. Following removal of the soils shown on Sheet 4 of the Drawings, a sampling program will be conducted to verify that the lead concentration remaining in the unexcavated soils, to a maximum depth of 4 feet below ground surface, is less than 1,400 mg/kg.

Excavation will begin in the southeast corner of the site near Peoria Street and proceed to the northwest corner of the site near 120<sup>th</sup> Street. In the southeast corner of the site is an asphalt surface covering approximately 11,000 square feet; in the northwest corner of the site is an asphalt surface covering approximately 5,400 square feet. The asphalt cover will be removed prior to excavation and disposed of offsite with the debris piles. The initial excavations will proceed to the depths below existing grade indicated on Sheet 4 of the Drawings. Excavated soil will be moved to the treatment area to be constructed in the north-central portion of the site.

An X-ray fluorescence (XRF) lead detector will be used to screen soil samples on site to aid in determining whether the risk-based criteria have been attained. Once XRF analysis indicates that the risk-based criteria have been attained, confirmatory soil screening samples will be collected for laboratory analysis. Soil samples to confirm attainment of the risk-based criteria will be collected from the base of the excavations at a frequency of 1 per 1,000 square feet (i.e. 56 samples). Attainment of the cleanup criteria will be confirmed by base samples only; side wall samples will not be collected due to the impracticability of excavating beneath the building slabs. The samples will be analyzed for total lead by EPA Method 6010B on an expedited one-week turnaround time basis. Once laboratory analysis has confirmed the attainment of cleanup criteria, the excavations will be backfilled. If the cleanup criteria are not met, additional excavation in specific "hot-spot" areas will be conducted to attain the risk-based criteria of 1,400 mg/kg lead. Laboratory analysis of samples collected from areas requiring additional excavation will be analyzed on an expedited 24-hour turnaround time basis to facilitate backfilling activities. All sample collection, handling, and management will be in accordance with the QAPP.

#### 3.4.2 Soil Stabilization and Disposal

The objective of the soil stabilization is to eliminate the presence of soluble lead in soil to concentrations below the regulatory TCLP concentration of 5.0 mg/l. Specifically, lead-containing soil will be stabilized such that the TCLP lead extract will not exceed 0.75 mg/l. Treatment to this concentration will allow the stabilized soil to be disposed of as nonhazardous waste at a Subtitle D landfill. Material is considered characteristically hazardous for lead toxicity if concentrations of lead in TCLP-generated extract meet or exceed 5.0 mg/l.

A pug mill stabilization system will be used which provides a safe, reliable method to treat lead-containing soil so that the treated material meets the performance criteria. The stabilization system will include control apparatus necessary to meet local, state, and federal regulations for air emissions and fugitive dust. The stabilization system will also meet applicable state and local noise pollution control regulations.

Stockpiles will be made for storing lead-containing soil prior to and following treatment. The stockpiles will be constructed in 100 cubic yard units and will be located on the concrete building slab in the central portion of the site as shown on Sheet 5 of the Drawings. The stockpiles will be placed under an impermeable geomembrane cover with a minimum thickness of 10 mils. The stockpiles will be covered to eliminate concerns for precipitation entering the stockpiles.

The untreated stockpiles will be sampled for TCLP lead at a frequency of 1 per 100 cubic yards. Those stockpiles that are found to be nonhazardous without treatment will be disposed of at a Subtitle D landfill, without stabilization.

Prior to full-scale operations, a field demonstration will be performed. At least 100 cubic yards of lead-containing soil will be processed and tested for volume increase and TCLP lead. Two representative samples will be collected from the treated material for analysis. The full-scale processing equipment will be used for the field demonstration. Reagents, mix ratios, and mixing procedures used during the field demonstration will be the same as those used for the remainder of the Remedial Action. The lead-containing soil used for the field demonstration will be obtained from the southeast portion of the site where excavation is planned to begin. Before performing the field demonstration, lead-containing soil to be used in the demonstration will be tested for total lead by EPA Method 6010B to verify that it is representative of site conditions (total lead concentrations greater than 1,400 mg/kg). If the treated material produced during the field demonstration is determined to be characteristically hazardous for lead toxicity as determined by the TCLP test, an equal quantity of the same type of material which failed shall be treated using a new mix design.

The estimated increase in volume resulting from treatment will be determined during the field demonstration test. Volume increase will be determined by comparing the volume of *in situ* material to be treated to the volume of treated material using the following formula:

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$$B = 100 \times [(1+R)(D \text{ in situ}/D \text{ treated}) - 1]$$

B= Volume increase in percent.

D *in situ*= Dry unit weight of *in situ* waste.

D treated= Dry unit weight of treated material.

R= Dry weight ratio of solidifying agent to waste.

After the field demonstration has been performed and the efficacy of the treatment system and mix design to meet the treatment criteria has been shown, full-scale treatment will proceed. During full scale operation, mixing time, mixing speed, and amounts of lead-containing soil, reagents, and water added to each batch will be documented. Mixing time, mixing speed, and batch proportions will be conducted at the rates and volumes established during the field demonstration.

The TCLP test is not amenable to real time quality control because of the time required to perform the test. Therefore, it is preferable to minimize the number of TCLP tests performed and to maintain quality control of the stabilization process by verifying that the mix design works during the field demonstration and maintaining quality control by monitoring batch proportions and mixing time. Real time indicator tests such as pH, specific conductance, mix temperature, and water content will be used as quality control tools to verify uniform mixes.

Treated material will be separated into stockpiles for post-treatment testing. Tests for TCLP lead will be performed at a frequency of 1 per 500 cubic yards of material. Stockpile sizes will be equal to or less than the quantity pertaining to the most frequent quality control test. Samples for post-treatment testing will generally be collected immediately after treatment. This will eliminate the need to remove samples from the treated mass after it has cured. Reprocessing and retesting shall be performed on treated material that is determined to be characteristically hazardous for lead toxicity as determined by TCLP testing. Treated material determined to be nonhazardous by TCLP testing will be transported offsite for disposal.

#### 3.4.3 Site Restoration

Excavations will be backfilled to approximate pre-excavation elevations and graded to drain using offsite backfill. Off-site backfill will be non-saturated, well-graded soil provided by a local source, and will be certified free of hazardous substances and deleterious material, such as large roots, rocks, or vegetative matter. The backfill will be placed into the excavations in

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maximum 8-inch lifts and compacted at each lift. A vegetative cover will be established upon completion of backfilling.

### **3.5 Asphalt Cap Placement**

Various portions of the former building slab at the site do not provide a complete barrier to direct contact with lead-containing soils because of cracks and holes. The primary area in which asphalt caps will be placed is shown on Sheet 4 of the Drawings. To address the lead-containing soil in this area, portions of the slab will be placed under asphalt caps. The caps will consist of a 2-3 inch thick surface of compacted asphalt pavement.

The asphalt pavement will be placed in such a manner that, when compacted, the finished course will be smooth and of uniform density. Holes or gaps in the concrete will be filled with asphalt to the extent possible to bring the identified areas to grade. The 2-3 inch thick asphalt cap will be placed above the filled surface. The asphalt pavement will be compacted using a roller or mechanical tamper. Compaction will be conducted while pavement is still hot and as soon as it will bear roller without undue displacement or hair cracking.

### **3.6 Maintenance**

NL is currently negotiating with the owner relative to long-term maintenance of the perimeter fencing, soil cover, and asphalt cover.

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#### **4.0 Health and Safety**

All work specified in this Remedial Design/Remedial Action Work Plan will be conducted in accordance with the Project Health and Safety Plan provided in Appendix G. This plan will apply to ESC site personnel only. All Contractor personnel shall be required to adhere to a separate Health and Safety Plan that is substantially consistent with ESC's plan and is commensurate with the work and activities that will be completed by the Contractor. The Contractor's Health and Safety Plan will be submitted to ESC for approval prior to initiating the Remedial Action field work.

During execution of the Remedial Action, trucks transporting stabilized material offsite for disposal will be routed to avoid residential neighborhoods. Specifically, trucks will be directed north on South Peoria Street to West 119<sup>th</sup> Street. Trucks will proceed west on West 119<sup>th</sup> Street to Interstate Highway 57.

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## 5.0 Permits and Approvals

ESC reviewed all potentially applicable State and local codes and regulations to determine the permitting requirements for implementation of the Remedial Action. An installation permit will be required by the City of Chicago, Department of Environment. A water permit will be required by the City of Chicago, Water Department. A right-of-way permit will be required by the City of Chicago, Department of Transportation. An excavation permit may be required by the City of Chicago, Building Department. The Remedial Design Drawings will be submitted to the Building Department for a determination as to whether an excavation permit is necessary. No other specific construction permitting or erosion and sediment control permitting requirements are known to apply to the proposed Remedial Action. While erosion and sediment control permits are not required for the project, erosion and sediment control guidelines from the U.S. Department of Agriculture, Natural Resources Conservation Service (USDA 1995) for the state of Illinois will be implemented during the Remedial Action. ESC has specified erosion and sediment control measures for the Remedial Action as shown on Sheet 3 of the Drawings (Appendix C).

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## 6.0 Project Organization

The organizational structure for implementing the Remedial Action is shown on Figure 3, Appendix A. ESC is the principal consultant to NL and is responsible for the performance of all services required to implement the Remedial Action. James Bulman, Senior Vice President of ESC, is ESC's Project Director. He has the authority to commit the firm's resources to accomplish the project objectives. He has ultimate responsibility for ESC and the Contractor's performance and with the Project Manager from the ESC management team for the project.

ESC's Project Manager, Gilbert Gabanski, is responsible for the day-to-day direction and management of all ESC's activities as well as of ESC's contractors. Mr. Gabanski has the responsibility and authority to procure the necessary support services and equipment for implementing the Remedial Action. He has prime responsibility for scheduling, technical matters, and reporting all of ESC's activities and will report directly to the Project Director.

ESC's Engineer of Record, John Black, P.E., is responsible for the engineering design and specifications for the Remedial Action. He is an Illinois-registered Professional Engineer. He will ensure that Remedial Action work is performed in strict compliance with the approved designs and specifications. He has the authority to halt or reject work that does not meet the requirements of the engineering design and specifications.

ESC's Quality Assurance Officer (QAO), John Johnson, is responsible for all aspects of implementing the Quality Assurance Project Plan (QAPP) related to this Remedial Action. He will coordinate with the ESC Project Manager and QAO's of all contractors. He will report directly to ESC's Project Manager or Project Director when corrective action is required as a result of compliance performance audits.

ESC's Health and Safety Officer, Craig Ramich, is responsible for preparing and ensuring that the Health and Safety Plan is followed. He will ensure that all Remedial Action activities are performed in a safe manner to eliminate danger to personnel performing the field activities. He will coordinate with the ESC Project Manager and contractors regarding all procedures related to health and safety. He will report directly to ESC's Project Manager and file injury reports, as required.

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## **7.0 Project Schedule and Progress Reporting**

Appendix E presents a project schedule for completion of the proposed Remedial Action. This schedule is subject to change if the extent of lead-containing soil requiring excavation and treatment under this Remedial Action increases.

ESC will submit monthly progress reports to EPA outlining the activities performed during the previous month. Reports will be submitted during the Remedial Action activities. All monthly reports will include the following:

- Description of activities completed during the reporting period;
- Description of problems or potential problems encountered;
- Description of activities scheduled for the next reporting period;

Based on the scheduled construction start date of April 30, 1998, the first monthly report will be submitted to EPA in early June 1998.

Within 60 calendar days after completion of the Remedial Action, ESC will submit a summary report to the EPA detailing the activities performed during the Remedial Action. The report will be prepared in accordance with Section 300.165 of the National Oil and Hazardous Substances Pollution Contingency Plan. The report will include an estimate of total costs incurred in implementing the Remedial Action, a listing of the quantities and types of materials removed, a discussion of removal and disposal options considered for those materials, a listing of the ultimate destinations of those materials, a presentation of the analytical results of all sampling and analyses performed, and accompanying appendices containing all relevant documentation generated during the Remedial Action (e.g., manifests, invoices, bills, contracts, and permits.) The report will also include a certification of its truth, accuracy, and completeness.

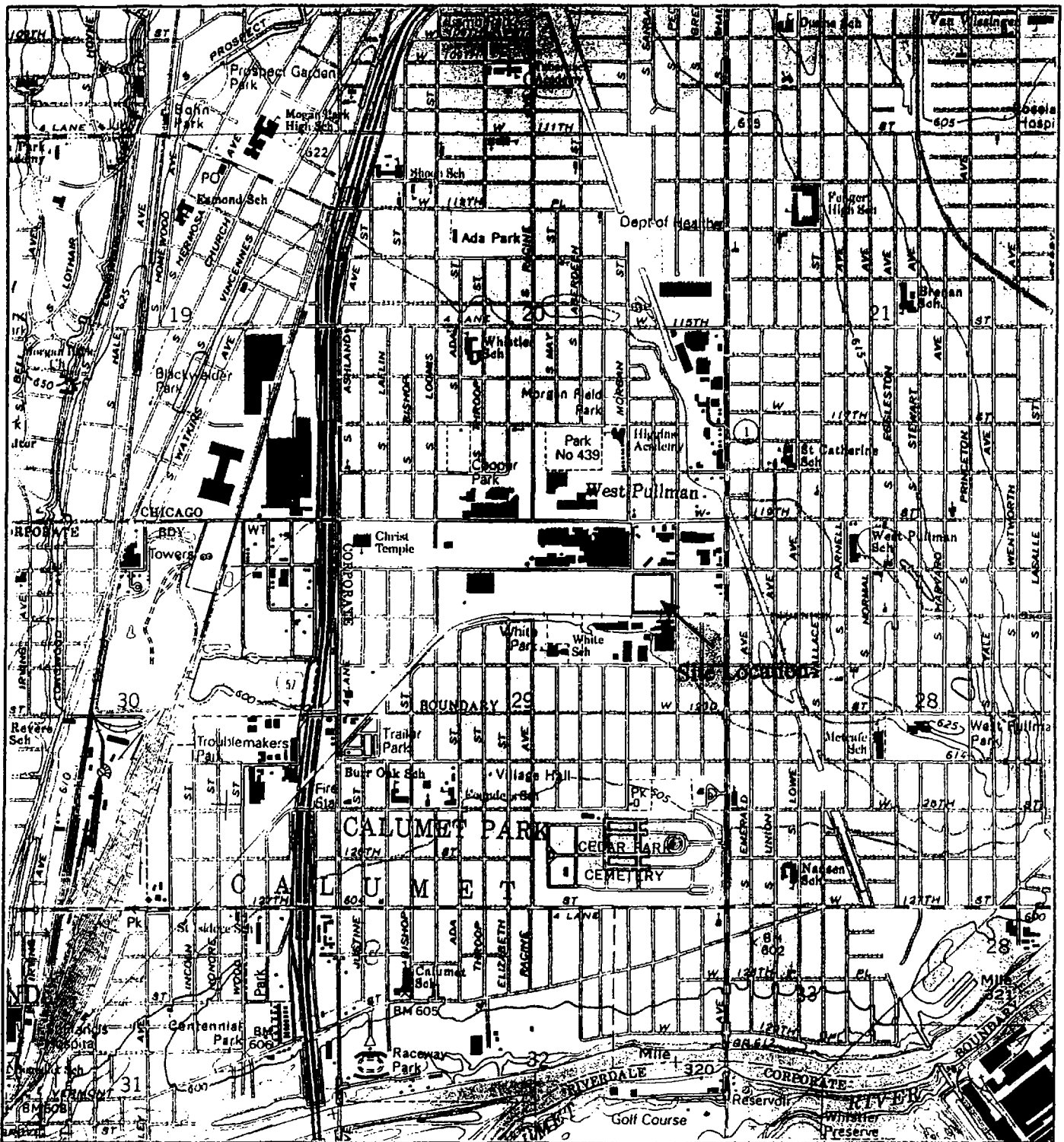
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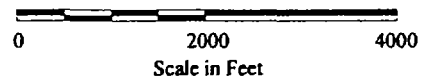
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## Appendix A – Figures



#### Reference

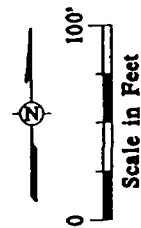
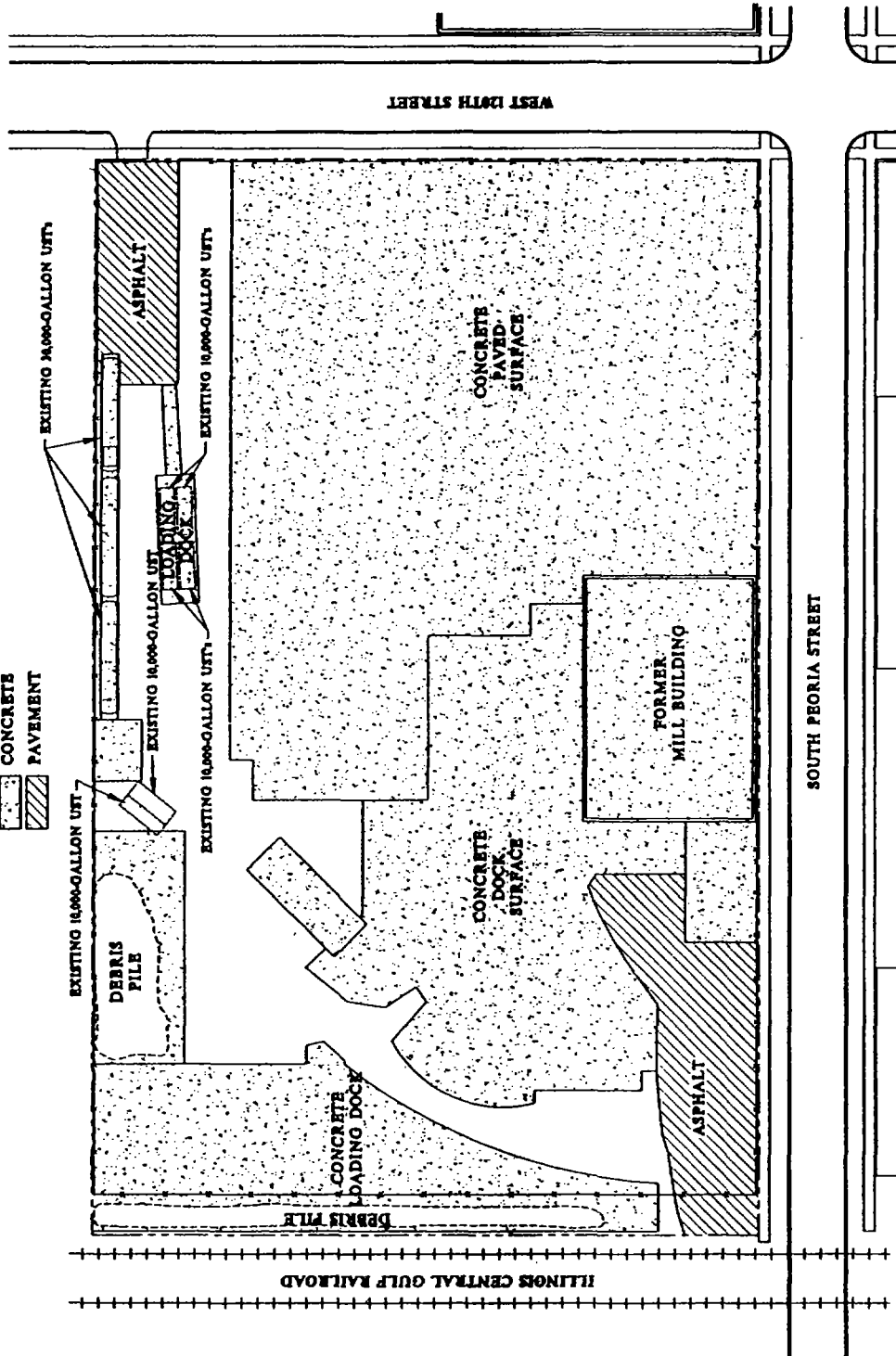
Blue Island Topographic Quadrangle  
 Illinois - Cook Co., US  
 Photorevised 1993 Scale 1:24,000



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 Reston, Virginia 20190  
 703-709-6500

**Figure 1**  
**Site Location**  
**Dutch Boy Site**  
**Chicago, Illinois**

- LEGEND**
- PROPERTY BOUNDARY
  - - - ESTIMATED AREA OF DEBRIS
  - - - EXISTING FENCELINE
  - ▨ CONCRETE
  - ▩ PAVEMENT



REFERENCE: "PLOT PLAN, FORMER PLANT SITE, CHICAGO ILLINOIS,"  
PREPARED BY SIMON HYDRO-SEARCH, DATED 11/01/91

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Figure 2  
Site Layout  
Dutch Boy Site  
Chicago, Illinois

U.S. Environmental Protection Agency Region V  
On-Scene Coordinator  
Brad Bradley

Environmental Strategies Corporation  
Project Director  
James Bulman

Environmental Strategies Corporation  
Project Manager  
Gilbert Gabanski

Environmental Strategies Corporation  
Engineer of Record  
John Black, P.E.

Environmental Strategies Corporation  
Health & Safety Officer  
Craig Ramich, C.S.P.

Environmental Strategies Corporation  
Quality Assurance Officer  
John Johnson

Contractors  
Remediation Services, Inc.

NL Industries, Inc.



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Figure 3  
Project Organizational Chart  
Dutch Boy Site  
Chicago, Illinois

---

**Appendix B – Remedial Action Design Specifications**

**Provided Under Separate Cover**

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**Appendix C – Remedial Action Design Drawings**

**Provided Under Separate Cover**

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## Appendix D - Cost Estimate

## Cost Estimate

### Dutch Boy Site Remedial Action Chicago, Illinois

#### Alternative 4 Onsite T & D Paved and Unpaved Areas >1,400 mg/kg

- 1 Mobilization/Demob
- 2 Site Preparation
- 3 Treat Storm & Decon Water Management
- 4A Paved Area Placement of Asphalt (3" thick)
- 4B Load, Transport & Dispose of Concrete
- 5A Excavate Waste Materials > 1,400 mg/kg
- 5B Onsite Treatment Soils >1,400 mg/kg
- 5C Stabilizing Reagent (Est. 15% by Wt.)
- 5D Transportation & Disposal (Subtitle D)
- 6A UST Concrete Removal and Offsite Disposal
- 6B Offsite Disposal of Free Liquids Generated
- 6C UST Removals
- 7 Load, Transport & Dispose of Debris Piles
- 8 Place, Compact Unclassified Fill
- 9 Place Top Soil 3"
- 10 Seed & Mulch
- 11 Document Preparation
- 12 Project Management and Oversight
- 13 Contingency

Units		\$/Unit	
3	LS	Various	\$25,000.00
1	LS	Various	\$18,500.00
If Any	Gal	\$0.25	\$0.00
4,848	SY	\$11.50	\$55,752.00
1,574	CY	\$50.00	\$78,700.00
5,000	CY	\$6.50	\$32,500.00
7,500	Tons	\$31.50	\$236,250.00
1,125	Tons	\$103.88	\$116,865.00
8,625	Tons	\$30.00	\$258,750.00
150	CY	\$61.19	\$9,178.50
4,500	Gal	\$2.00	\$9,000.00
150,000	Gal	\$0.75	\$112,500.00
850	CY	\$45.00	\$38,250.00
5,637	CY	\$11.21	\$63,190.02
613	CY	\$25.00	\$15,326.67
1.5	Acre	\$3,250	\$4,940.00
Subtotal Soil T & D			\$1,074,702.19
1	LS	Various	\$35,000.00
1	LS	Various	\$110,000.00
Subtotal Estimate			\$1,219,702.19
10% Subtotal Estimate			\$121,970.22
TOTAL Estimate			\$1,341,672.41

LS = lump sum

CY = cubic yard

SY = square yards

Gal = gallons

mg/kg = milligram per kilogram

---

**Appendix E - Schedule**

Begin Construction	0	0	30APR
Mobilization	3d	3d	30APR
Erosion and Sedimentation Controls Installation	2d	2d	30APR
Underground Storage Tank Removal	10d	10d	04MAY
Debris File Removal	3d	3d	04MAY
Excavation	25d	25d	07MAY
Field Demonstration	5d	5d	07MAY
Soil Stabilization	30d	30d	14MAY
Asphalt Capping	10d	10d	11JUN
Demobilization	3d	3d	25JUN
Final Report Preparation	60d	60d	30JUN

Final Report Preparation

- ▲ Early start point
- ▼ Early finish point
- Early bar
- ▼ Late finish point
- Total float bar
- Progress bar
- Critical bar
- Summary bar
- ▲ Progress point
- ▲ Critical point
- ♥ Summary point
- ◆ Start milestone point
- ◆ Finish milestone point

ESC  
ental Strategies Corporation  
Reston, Virginia

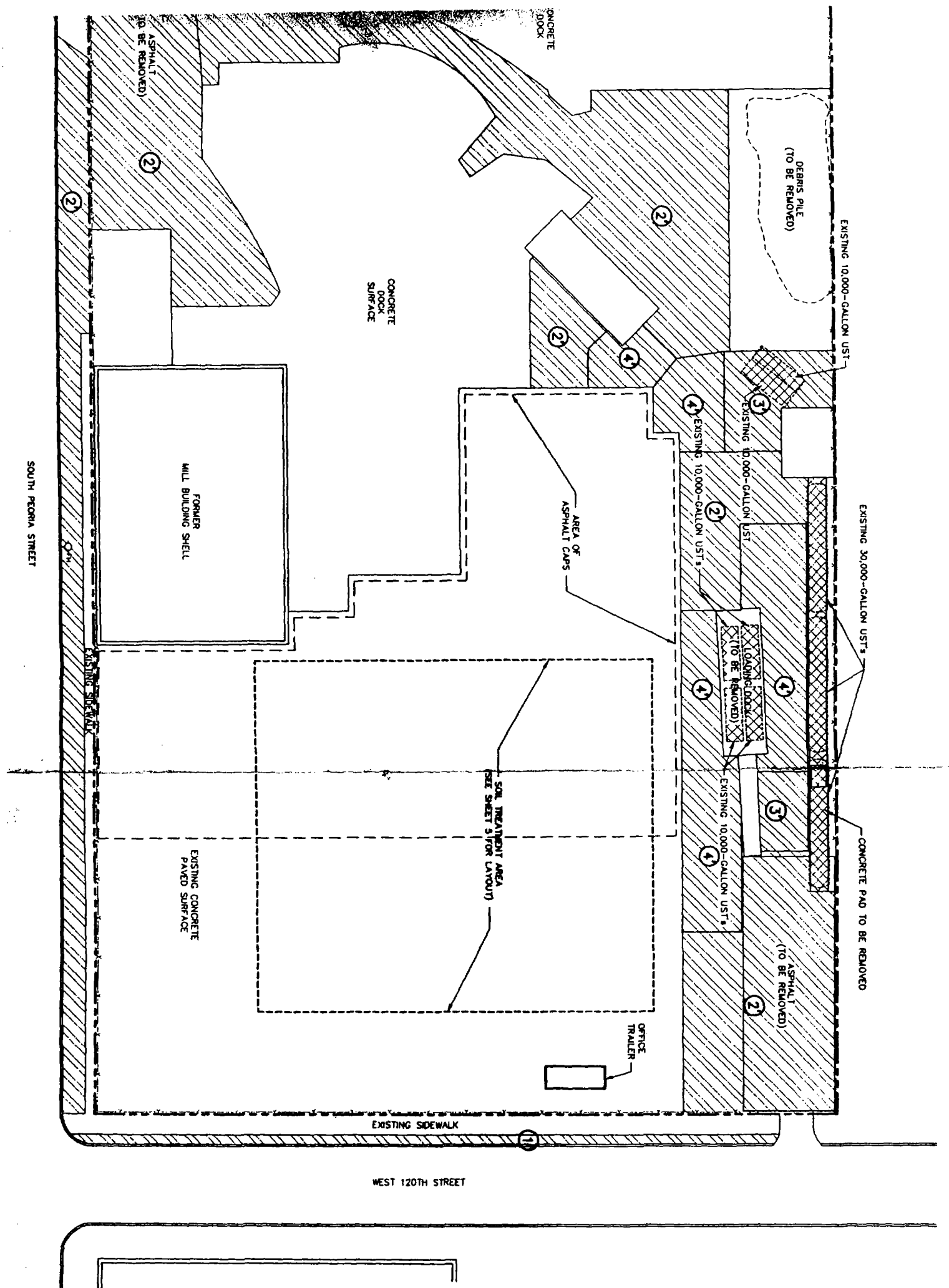



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**Appendix F – Project Health and Safety Plan**

**Provided Under Separate Cover**

Exhibit D



 Exhibit E

**REMEDIAL ACTION REPORT**

**DUTCHBOY SITE  
CHICAGO, ILLINOIS**

**VOLUME 1 OF 2**

**REPORT, FIGURES, AND TABLES**

**PREPARED**

**BY**

**ENVIRONMENTAL STRATEGIES CORPORATION**

**DECEMBER 22, 1999**

**REMEDIAL ACTION REPORT**

**DUTCHBOY SITE  
CHICAGO, ILLINOIS**

**VOLUME 2 OF 2**

**APPENDICES**

**PREPARED**

**BY**

**ENVIRONMENTAL STRATEGIES CORPORATION**

**DECEMBER 22, 1999**

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- Appendix D - Tank Registration and Closure Documents
- Appendix E - Soil Testing Results - Hydraulic Conductivity
- Appendix F - Soil Testing Results - Compaction Results

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### Acronym List

ACM	asbestos-containing material
BETX	benzene, toluene, ethylbenzene, and xylenes
bgs	below ground surface
CS	confirmation soil sample unpaved area
CSP	paved area confirmation sample
CPU	paved area untreated soil stockpile sample
CPT	paved area treated soil stockpile sample
DRO	diesel range organics
EOC	Extent of Contamination
Environ Environ	International Corporation
EOC	extent of contamination
EPA	U.S. Environmental Protection Agency
EP	extraction procedure
ESC	Environmental Strategies Corporation
E&E	Ecology and Environment, Inc.
GRO	gasoline range organics
Harza	Harza Environmental Services, Inc.
IAC	Illinois Administrative Code
IDPH	Illinois Department of Public Health
IEPA	Illinois Environmental Protection Agency
µg/kg	microgram per kilogram
µg/m <sup>3</sup>	micrograms per cubic meter
mg/kg	milligrams per kilogram
mg/l	milligrams per liter
NBAAQS	National Ambient Air Quality Standard
NL	NL Industries, Inc.
OSC	on-scene coordinator
PAH	polycyclic aromatic hydrocarbon
PCBs	polychlorinated biphenyls
QAPP	Quality Assurance Project Plan
RA	Remedial Action
RAP	Remedial Action Plan
RCRA	Resource Conservation and Recovery Act
RD/RA	Remedial Design/Remedial Action
SAIC	Science Applications International Corporation
Simon	Simon Hydro-Search, Inc.
SPU	unpaved area untreated soil stockpile sample
SPT	unpaved area treated soil stockpile sample
SRA	Supplemental Remedial Action
SVOC	semivolatile organic compound
TACO	Tiered Approach to Corrective Action Objectives
TCLP	Toxicity Characteristic Leaching Procedure
TSP	Total Suspended Particles
Toxcon	Toxcon Engineering Company, Inc.
UAO	Unilateral Administrative Order
VOC	volatile organic compound
XRF	X-ray fluorescence

---

## **1.0     Introduction**

### **1.1     General**

Environmental Strategies Corporation (ESC) on behalf of NL Industries, Inc. (NL) has prepared this Remedial Action (RA) Report for the Dutch Boy site in Chicago, Cook County, Illinois. The purpose of the Remedial Action was to mitigate and manage risks posed by lead present in shallow soil at the site. The objective of the Remedial Action was to reduce the threat to human health and the environment posed by surface soil containing concentrations of lead above the United States Environmental Protection Agency (EPA) established risk-based cleanup goal for lead of 1,400 milligrams per kilogram (mg/kg).

The Remedial Design/Remedial Action (RD/RA) Work Plan (Work Plan) was submitted in to the EPA on March 9, 1999, accordance with the terms of the March 26, 1998, Unilateral Administrative Order (UAO) issued to NL by the EPA. Specifically, the RD/RA was designed to implement the EPA-approved alternative to abate the risks associated with lead-containing soil at the site. The approved alternative was selected in the Risk Management Plan prepared by Environ International Corporation (Environ), dated December 1998. This Work Plan was prepared in accordance with guidance developed by the EPA Office of Emergency and Remedial Response. The EPA approved the RD/RA with modifications on April 23, 1999. ESC submitted RD/RA amended pages to the EPA on May 6, 1999.

In addition, ESC prepared a Supplemental Remedial Action (SRA) Work Plan for the former Dutch Boy site and submitted the plan to the city of Chicago on July 1, 1999 (Revised on August 8, 1999). The objective of the SRA was to reduce the threat to human health and the environment posed by soil beneath part of the paved area at the site containing concentrations of lead above the EPA established risk-based cleanup goal of 1,400 mg/kg. The SRA was conducted in accordance with the June 9, 1999, Consent Decree between the City of Chicago and NL. The SRA replaced the RD/RA Work Plan that included the placement of asphalt pavement over part of the paved area of the site.

### **1.2     Summary of the Remedial Action Plan**

The Risk Management Plan for the Dutch Boy Site (December 1998) detailed options for mitigating the risks associated with lead-containing soil at the site. The plan considered various

alternatives to reduce the risks, compared costs and protectiveness of each alternative, and recommended an alternative to be implemented that was cost-effective and protective of human health and the environment. Alternative 4 from the Risk Management Plan was selected for the Remedial Action. The Remedial Action selected for the Dutch Boy site consists of the following components:

- Lead-containing soil excavation and sampling
- Soil stabilization
- Offsite disposal
- Underground storage tank closures
- Debris pile removal and offsite disposal
- Asphalt-pavement cap placement
- Implementation of maintenance program

This alternative consisted of excavation, treatment, and disposal of all soil in the unpaved areas of the site containing total lead concentrations greater than the EPA's risk-based cleanup criteria of 1,400 mg/kg. Approximately 5,000 cubic yards of lead-containing soils was to be excavated and treated onsite by stabilization to eliminate the characteristic of toxicity (nonhazardous). The treated soil was to be disposed of offsite at a landfill permitted under Subtitle D of the Resource Conservation and Recovery Act (RCRA). The alternative achieves the objective of the Remedial Action by eliminating the potential for direct contact and ingestion of lead in unpaved, onsite soils.

Two construction debris piles were present on the southern and southwestern portions of the site. The piles were estimated to contain approximately 850 cubic yards of material. Each pile contains debris from the post-1980 demolition activities. The 800 cubic yard pile was be transported offsite for disposal as demolition debris. The 50 cubic yard pile consists of brick and mortar and was to remain onsite.

Nine underground storage tanks were present at the site. This alternative includes the closure of the tanks by removal during implementation of the Remedial Action. The storage tanks were located under the concrete slab on the west-central portion of the site and have an aggregate capacity of approximately 150,000 gallons. Liquids, solids, and sludges contained in the tanks were previously removed by the Illinois Environmental Protection Agency (IEPA).

The paved areas of the site consist primarily of concrete slabs from former site buildings with some asphalt-paved areas. The RD/RA Work Plan alternative included the repair of damaged onsite concrete surfaces. A 2–3 inch thick asphalt-pavement cap was to be placed over areas of the existing concrete surface which are not intact and provided a potential direct-contact exposure pathway to lead-containing soil; and, a long-term maintenance program was to be developed and implemented for the asphalt cap. However, this RD/RA alternative plan was replaced by the SRA Work Plan that proposed to excavate lead-containing soils beneath part of the paved area at the site containing concentrations of lead above the EPA established risk-based cleanup goal of 1,400 mg/kg and treat onsite by stabilization to eliminate the characteristic of toxicity (nonhazardous). The treated soil was to be disposed of offsite at a landfill permitted under Subtitle D of the RCRA. The SRA was conducted in accordance with the June 9, 1999, Consent Decree between the City of Chicago and NL.

The Supplemental Remedial Action for the Dutch Boy site consisted of the following components:

- Removing concrete slabs and disposing offsite
- Excavating soil containing lead greater than 1,400 mg/kg
- Stabilizing soils onsite to render them nonhazardous
- Disposing of soil offsite
- Backfilling and compaction of excavated areas

The SRA proposed removing, cleaning, and stockpiling onsite approximately 3,250 square yards of concrete and excavating, treating onsite by stabilization to eliminate the toxicity characteristics (nonhazardous) offsite of approximately 1,150 cubic yards of lead-containing soil. The treated soil was to be disposed of offsite at a landfill permitted under Subtitle D of the RCRA.

The paved areas of the site to be removed appeared to be concrete slabs from former site buildings. Portions of the concrete surfaces were cracked and in disrepair.

---

## **2.0 Site Description**

### **2.1 Site Location and Description**

The Dutch Boy site facility is located at 12000 to 12054 South Peoria Street and 901 to 935 West 120<sup>th</sup> Street, Cook County, Chicago, Illinois (Figure 1). The site comprises 5.2 acres and is situated in a primarily industrial area. It is bound to the north by West 120<sup>th</sup> Street, to the east by South Peoria Street, to the south by rail lines of the Illinois Central Gulf Railroad, and to the west by an empty lot.

There are no buildings standing at the site although concrete building slab foundations cover much of the site. Approximately 75-percent of the site is under concrete cover and the remaining 25 percent is soil covered. The unpaved areas run in strips from north to south along the western edge of the property and extend to the southeast corner of the site. The unpaved areas likely were associated with the former railroad spurs that crossed the property.

### **2.2 Site History**

From 1906 to 1980, the site was used to manufacture and refine white lead (i.e., lead carbonate) and lead oxide for lead-based paints and other lead-related products. No manufacturing has been conducted at the site since 1980. Based on previous reviews of Sanborn maps and historical aerial photographs, building demolition occurred at the site from the mid-1980s through 1996.

Various industrial activities have been conducted in the immediate vicinity of the site, including an aluminum foundry, metal machining shops, vehicle and heavy equipment maintenance and storage, junkyards, coal yards, and other metal treatment, forging finishing, and pickling operations. However, most of the properties surrounding the site are currently abandoned or vacant, it is likely that historic activities at these facilities have influenced lead concentrations in soils in the vicinity of the Dutch Boy site.

### **2.3 Topography**

The site surface is generally flat. Most of the site is either at ground surface or elevated approximately four feet to loading-dock level. The ground elevation at the site is approximately 610 feet above mean sea level (United States Geological Survey 7.5' Blue Island, Illinois

Quadrangle, 1993). Area topography generally slopes to the south towards the Little Calumet River located over 1 mile south of the site.

## **2.4 Summary of Previous Investigations**

Environmental investigations began at the site in 1986 with an IEPA-conducted removal action. This removal was done in three phases. IEPA removed and disposed of surficial solids, both suspected and known to contain lead and asbestos during Phase I in June 1986.

IEPA sampled, analyzed and disposed of liquids, solids and sludges contained in all aboveground and underground storage tanks during Phase II in November 1986. IEPA also removed and disposed of all existing process and production equipment, baghouses, mixing tanks, screw conveyors, hoppers, masonry rubble, asbestos, and debris located in and around the building. The freestanding walls of the buildings were demolished during Phase II. IEPA assessed the structural integrity of the underground storage tanks and concluded that they were structurally sound and did not leak during Phase III in 1987. IEPA also sampled and analyzed soil for lead. Results indicated that 130 cubic yards of soil on and adjacent to the site contained Extraction Procedure (EP) toxicity extract lead concentrations greater than 5 milligrams per liter (mg/l) and approximately 140 cubic yards of soil contained greater than 1 percent lead. An EP toxicity extract lead concentration equal to or greater than 5 mg/l was defined as a hazardous waste under the RCRA regulations in effect at that time. The soil was not removed.

In June 1987, Toxcon Engineering Company, Inc. (Toxcon) conducted a field investigation at the site on behalf of NL. Samples were collected at 34 locations onsite and in the parkway across the street from the site. A soil sample taken from the northeast portion of the site contained a total lead concentration of 11,400 mg/kg. A second sample taken from the west side of the site contained 50,000 mg/kg of total lead. This second also had an EP toxicity extract lead concentration of 41 mg/l. In addition, analysis of a third sample taken from the parkway northeast of the site had an EP toxicity lead extract concentration of 4.6 mg/l. Based on these sample results and discussions with IEPA, Toxcon conducted additional field sampling in February 1988 and concluded that one onsite area and two offsite areas contained EP toxicity extract lead concentrations greater than 5 mg/l.

In 1991, EPA's contractor, Ecology and Environment, Inc. (E & E) conducted a reconnaissance at the Dutch Boy site. E & E observed small piles of general household and

construction refuse scattered over the site. Since abandoned building structures containing potentially hazardous substances and lead-containing soils surrounding these structures were still present, E & E concluded that release of hazardous substances to the air was still a potential threat to human health. E & E recommended that the site be secured to prevent access by the public and that samples of the building structures and soils be taken to determine whether the release of hazardous substances from the site posed a potential threat to the community.

On August 10, 1993, EPA, IEPA and E & E conducted a site assessment of the Dutch Boy property. No soil piles or exposed soils were identified at the site and no soil samples were collected. On August 25 and 26, 1993, Simon Hydro-Search, Inc. (Simon) conducted an environmental assessment of the site on behalf of NL. Eleven soil samples were collected from seven onsite locations. In samples from the area of the loading dock and railroad spur on the west side of the site, total lead concentrations as high as 45,700 mg/kg and Toxicity Characteristic Leaching Procedure (TCLP) lead extract concentrations as high as 694 mg/l were measured. In the road outside the northeast corner of the site, a total lead concentration of 19,200 mg/kg and a TCLP lead extract concentration of 98.4 mg/l were measured in a sample. A TCLP extract lead concentrations equal to or greater than 5 mg/l is defined as a RCRA hazardous waste (hazardous waste code D008).

On May 10, 1994, Harza Environmental Services, Inc. (Harza) conducted a site investigation on behalf of the City of Chicago. Harza collected and analyzed 13 wipe samples and 13 scrape samples from the 3-story mill building at the site. Seven of the 13 wipe samples and 8 of the 13 scrape samples met the Illinois Department of Public Health (IDPH) definition of a lead-bearing substance. Six soil samples collected from depths between 6 and 15 feet below ground surface (bgs) were analyzed for TCLP lead. One other soil sample was collected at a depth of 1.0 to 2.5 feet bgs. All soil samples had TCLP lead concentrations at or below the 5.0 mg/l RCRA concentration for hazardous waste.

On June 8, 1995, an EPA on-scene coordinator (OSC) and staff from E & E and Harza conducted another site assessment. Six soil samples were collected and analyzed for lead. Total lead was detected in onsite soils at concentrations ranging from 1,540 mg/kg to 31,700 mg/kg. A total lead concentration of 21,200 mg/kg was reported in a sample collected from the east side of the building structure near a fire hydrant. A total lead concentration of 31,700 mg/kg was reported in another sample collected from the east side of the northernmost loading dock on the west side of the

site. This sample also had a TCLP lead extract concentration of 351mg/l. In an August 25, 1995 Site Assessment Report, E & E concluded that the site should be secured and an extent of contamination study should be conducted to determine the extent of lead-containing soil at the site.

In February 1996, EPA's contractor, Science Applications International Corporation (SAIC), reviewed the available reports on the site and assessed the likelihood of a potential release of lead from the historic manufacturing processes. SAIC calculated that approximately 166 tons of lead was released into the air between 1906 and 1980 from the historic manufacturing activities. Assuming that each of the manufacturing processes site had a short stack, low exit velocity, and low temperature, SAIC predicted that most of the emissions would have settled out within several hundred feet.

In March 1996, EPA prepared an interim final risk assessment for the site. The risk assessment assumed that the site would be used for an occupational scenario and that it would not be frequented by small children. Based on these assumptions, EPA calculated a risk-based clean-up goal of 1,400 mg/kg as the average concentration of lead in soil, which would allow for risks within an acceptable range. In addition, the risk assessment recommended that any hot spots which are significantly higher than the 1,400 mg/kg be remediated even if, when averaged, they contribute to an acceptable range of risk.

In 1997 an Extent of Contamination (EOC) survey was conducted for the site by Environ Corporation. The primary objective of the EOC survey was to evaluate the vertical and horizontal extent of lead in soil at the site and in its vicinity. Over 350 samples from 151 locations were collected and analyzed. The extent of onsite soils containing lead at concentrations greater than the 1,400 mg/kg risk-based cleanup criteria was found to be generally limited to the western, unpaved portions of the site. The areas most affected are the former rail spurs leading to the loading dock in the northwestern portion of the site. Surface soil (i.e., 0.0 to 0.2 feet below ground surface) lead concentrations in the rail spur area range from 5,000 to 10,000 mg/kg.

Selected soil samples also were analyzed for several other parameters (e.g., asbestos, petroleum hydrocarbons, and volatile organic compounds) to evaluate their impact on remedial technologies for the lead-containing soil. Diesel-related petroleum hydrocarbons were identified in soil samples collected near the loading dock in the northwest portion of the site. The petroleum-hydrocarbon impacted soil is confined to the immediate vicinity of the underground

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storage tanks. Based on the concentrations of hydrocarbons detected at the site, it is unlikely that they will affect the technology selected to address lead-containing soil.

---

### **3.0 Description of Remedial Action**

The following information summarizes the Remedial Action work performed at the Dutch Boy site between May 6, 1999 to October 21, 1999.

#### **Onsite Activities - Unpaved Area**

- Excavated 100% of the onsite unpaved surface area with lead impacted soil.
- Excavated and stockpiled 7,848 tons of lead contaminated soil.
- Removed the sediment pile from under the former mill building (sample location SS-57).
- Collected a total of 51 confirmation soil (CS) samples including an additional 6 duplicates and 5 equipment blanks and analyzed for total lead.
- Total lead concentrations for all final CS samples were detected at concentrations below the cleanup criteria of 1,400 milligrams per kilogram (mg/kg).
- Collected 69 soil samples including 7 duplicates and 7 equipment blanks and analyzed for TCLP lead from untreated soil stockpiles (SPU).
- TCLP results for SPU samples collected from 7 stockpiles of untreated soil were less than the regulatory level of 5 milligrams per liter (mg/l) for lead, therefore, 612 tons of soils did not require treatment.
- TCLP results for SPU samples collected from the other 62 stockpiles of untreated soil ranged from 4.9 to 522 mg/l.
- Treated 7,236 tons of lead impacted soils using 332 tons of reagent (3.6 percent by weight).
- Collected 14 soil samples including 2 duplicate and 3 equipment blanks and analyzed for TCLP lead from treated soil stockpiles (SPT).
- TCLP results for SPT samples collected from 14 stockpiles of treated soil indicated all stockpiles with lead not detected or below the regulatory level of 5.0 mg/l, indicating the soil could be disposed of as a non-hazardous waste.
- Transported and disposed of 8,180 tons that consisted of 7,236 tons of treated soil, 264 tons of reagent, and 612 tons of untreated soil.
- Pumped and disposed of 113,500-gallons of storm water from the site.

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- Removed and disposed of offsite of nine underground storage tanks, all of which were totally encased in concrete and flowable fill (low psi concrete).
  - Additional excavated soil was generated from the removal of the nine underground storage tanks where soil was excavated from a depth of 4 feet below ground surface (bgs) to a depth of 9 feet bgs. A hard dense clay was encountered at a depth from 9 to 11 feet bgs.
  - Removed and disposed of 234 cubic yards of concrete from the underground storage tank area
  - Collected a total of 17 confirmation soil samples from around the underground storage tanks at a depth of nine feet bgs including 2 duplicates and 2 equipment blanks and analyzed for total lead.
  - Total lead concentrations for all underground storage tank CS samples were detected at concentrations below the cleanup criteria of 1,400 mg/kg with the exception of one sample with total lead detected at a concentration of 1,700 mg/kg, collected at a depth of 9 feet bgs.
  - Collected from around the two 10,000-gallon fuel oil and mineral spirits underground storage tanks at a depth of nine feet bgs a total of 8 CS samples, including 1 duplicate, and analyzed for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs).
  - Collected from around the two 10,000-gallon linseed oil and the three 30,000-gallon linseed oil and mineral spirits underground storage tanks at a depth of nine feet bgs a total of 8 CS samples including 1 duplicate and analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) and polycyclic aromatic hydrocarbons (PAHs).
  - Collected from the piping area near the loading dock at a depth of nine feet bgs a total of 1 CS sample and analyzed for BTEX and PAHs.
  - Detected concentrations of various VOCs, SVOCs, BTEX, and PAHs were below the Illinois Tiered Approach to Corrective Action Objectives (TACO) Tier I soil standards for industrial-commercial exposure via ingestion.
  - Collected three samples of the flowable fill and analyzed for VOCs, PAHs, total lead and TCLP lead. Analytical results for total lead concentrations between

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340 to 486 mg/kg and no detectable leachable lead. The flowable fill was used as backfill from the bottom of the underground storage tank excavations to no higher than a depth of 4 feet bgs.

- Placed and compacted 8,180 cubic yards of backfill.
- Seeded and mulched 0.6 acres.
- Treated 40 cubic yards of debris that potentially contained lead impacted soil.
- Removed and disposed of offsite 350 cubic yards from the asbestos-containing debris piles that consisted of 275 cubic yards of ACM, 45 cubic yards of asphalt, brick, and concrete, and 30 cubic yards of rebar.
- Collected a total of 56 air samples from air monitoring equipment located at the four corners of the site during 12 24-hour periods and analyzed the samples for lead and particulate mass.
- Analysis of the air samples indicates that lead mass has been detected at concentrations less than the National Ambient Air Quality Standard (NAAQS) 1.5 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) for lead with the exception of one sample collected on July 30, 1999.
- Analysis of the air samples indicates that particulate mass has been detected at concentrations less than the NAAQS of 150  $\mu\text{g}/\text{m}^3$  for particles less than 10 microns, with the exception of one sample collected on July 22, 1999.

#### Offsite Activities - Parkway Soils

- Excavated 100% of the parkway area with lead impacted soil.
- Excavated and stockpiled 1,047 tons (approximately 775 cubic yards) of lead impacted soil.
- Additional excavated soil was generated from areas proposed for an excavation of between 3 to 12-inches bgs that required excavation to a depth of 22 to 27 inches bgs based on CS samples that exceeded 1,400 mg/kg and from the parkway area at the southeast side of the site that had not been designated for excavation based on the original investigation data.
- Collected a total of 10 confirmation soil samples including 2 duplicates and 1 equipment blank and analyzed for total lead.

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- Total lead concentrations for all final CS samples were detected at concentrations below the cleanup criteria of 1,400 mg/kg.
  - Collected 6 soil samples including 1 duplicate and 1 equipment blanks and analyzed for TCLP lead from untreated soil stockpiles (SPU).
  - TCLP results for SPU samples collected from 3 stockpiles of untreated soil were less than the regulatory level of 5 mg/l for lead, therefore, 409 tons of soils did not require treatment.
  - TCLP results for SPU samples collected from the other 3 stockpiles of untreated soil ranged from 6.6 to 31.2 mg/l.
  - Treated 637 tons of lead impacted soils using 20 tons of reagent (3.1 percent by weight).
  - Collected 2 soil samples and analyzed for TCLP lead from treated soil stockpiles (SPT).
  - TCLP results for SPT samples collected from 2 stockpiles of treated soil indicated all stockpiles with lead not detected or below the regulatory level of 5.0 mg/l, indicating the soil could be disposed of as a non-hazardous waste.
  - Transported and disposed of 1,066 tons that consisted of 637 tons of treated soil, 20 tons of reagent, and 409 tons of untreated soil.
  - Placed and compacted 700 cubic yards of backfill.
  - Seeded and mulched 0.2 acres.

#### Onsite Activities - Paved Area Soils

- Removed, cleaned and stockpiled 3,232 square yards of concrete.
- Excavated 100% of the paved area designated in the SRA Work Plan with lead impacted soil.
- Excavated 3,074 tons (approximately 2,277 cubic yards) of lead impacted soil.
- Collected a total of 46 confirmation soil samples including 5 duplicates and 3 equipment blank and analyzed for total lead.
- Total lead concentrations for all final CS samples were detected at concentrations below the cleanup criteria of 1,400 mg/kg.

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- Collected 22 soil samples and analyzed for TCLP lead from untreated soil stockpiles (CPU).
  - TCLP results for CPU samples collected from 1 stockpile of untreated soil were less than the regulatory level of 5 mg/l for lead, therefore, 120 tons of soils did not require treatment.
  - TCLP results for CPU samples collected from the other 21 stockpiles of untreated soil ranged from 26 to 288 mg/l.
  - Treated 2,955 tons of lead impacted soils using 107 tons of reagent (3.6 percent by weight).
  - Collected 7 soil samples and analyzed for TCLP lead from treated soil stockpiles (CPT).
  - TCLP results for CPT samples collected from 7 stockpiles of treated soil indicated all stockpiles with lead not detected or below the regulatory level of 5.0 mg/l, indicating the soil could be disposed of as a non-hazardous waste.
  - Transported and disposed of 3,182 tons that consisted of 2,955 tons of treated soil, 107 tons of reagent, and 120 tons of untreated soil.
  - Placed and compacted 2,506 cubic yards of backfill.
  - Seeded and mulched 0.61 acres.

### **3.1 Excavation of Lead-Containing Soil**

A total of approximately 7,848 tons of soil were excavated from the unpaved portion of the site, a total of 1,046 tons of soil were excavated from the parkway area, and a total of 3,075 tons of soil were excavated from the paved area of the site. In addition, approximately two cubic yards of sediment were removed from under the east side of the former mill building at Environ sample location SS-57. Sheet 1 illustrates the approximate depths of the excavated areas of the site. All depths cited are referenced to ground surface existing at the commencement of excavation activities. Depths of excavation ranged from 2.0 feet to 4.0 feet in the unpaved area with the exception that soils were excavated to a depth of 9.0 to 11.5 feet in the area around the nine underground storage tanks. Depths of excavation ranged from 1.0 to 2.0 feet in the parkway area and the depths of excavation ranged from 0.5 to 7.5 feet in the paved area.

Contaminated soils excavated from the site generally consisted of a fill material of silty sand and some clay with debris consisting of wood, metal, rocks, bricks, and concrete. The underlying native soil generally consisted of a gray to dark gray to black, sandy to silty clay. The fill material in the parkway area consisted mostly of sand with cinders underlain by clay. In general, lead concentrations typically decreased to concentrations ranging from 4.5 mg/kg to 200 to 300 mg/kg in the underlying clay soils.

As excavation proceeded, in-situ lead screening was performed using a portable x-ray fluorescence (XRF) instrument. Excavation was continued in an area until the XRF indicated that the total lead content of the soil was less than the EPA criterion of 1,400 mg/kg. A confirmation soil (CS) sample was then collected from the excavation for laboratory analysis to demonstrate that the EPA criterion was met. XRF screening and confirmation sampling activities are described in Sections 4.1 and 4.2, and sampling locations are shown in Sheet 1.

Material removed was placed in stockpiles of approximately 100 cubic yards. These untreated soil piles were labeled SPU-001 through SPU-074 for the unpaved and parkway areas (Table 1) and CPU-1 through CPU-22 for the paved area (Table 2). The piles were sampled and analyzed for TCLP lead.

All samples were collected and analyzed for TCLP lead using EPA method 1311 and 6010B in accordance with the approved RD/RA and associated Quality Assurance Project Plan (QAPP). The analytical reports are presented in Appendix A, Volume II.

### **3.2 Soil Stabilization**

The objective of the soil stabilization process was to eliminate the presence of soluble lead in soil to concentrations below the regulatory TCLP concentration of 5.0 mg/l. Specifically, lead-containing soil was stabilized by onsite treatment such that lead concentration in the TCLP extract did not exceed 5.0 mg/l. Treatment to below this concentration allows the stabilized soil to be disposed of as nonhazardous waste at a Subtitle D landfill.

A total of approximately 10,828 tons of soil were stabilized with 659 tons of the reagent EnviroBlend®, using the process described below. A total of 7,236 tons of soil were treated from the unpaved area, a total of 637 tons of soil were treated from the parkway area, and a total of 2,955 tons of soil were treated from the paved area.

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### 3.2.1 Treatment Process

The objective of the soil stabilization was to eliminate the presence of soluble lead in soil to concentrations below the Universal Treatment Standard (UTS). Specifically, lead-containing soil was stabilized such that the TCLP lead extract did not exceed 5.0 mg/l. Treatment to this concentration allowed the stabilized soil to be disposed of as nonhazardous waste at a Subtitle D landfill. Material is considered characteristically hazardous for lead toxicity if concentrations of lead in TCLP-generated extract meet or exceed 5.0 mg/l.

A pug mill stabilization system was used to provide a safe, reliable method to treat lead-containing soil so that the treated material meets the performance criteria. The stabilization system included control apparatus necessary to meet local, state, and federal regulations for air emissions and fugitive dust. The stabilization system also met applicable state and local noise pollution control regulations.

Stockpiles were made for storing lead-containing soil prior to and following treatment. The stockpiles were constructed in 100 cubic yard units and were located on the concrete building slab in the central portion of the site. The stockpiles were placed under an impermeable geomembrane cover with a minimum thickness of 10 mils. The stockpiles were covered to eliminate concerns for precipitation entering the stockpiles.

The untreated stockpiles were sampled for TCLP lead at a frequency of 1 per 100 cubic yards. Those stockpiles that are found to be nonhazardous without treatment were disposed of at a Subtitle D landfill, without stabilization.

Prior to full-scale operations, a field demonstration was performed. At least 100 cubic yards of lead-containing soil was processed and tested for volume increase and TCLP lead. Two representative samples were collected from the treated material for analysis. The full-scale processing equipment was then used for the field demonstration. EnviroBlend®, mix ratios, and mixing procedures used during the field demonstration were the same as those used for the remainder of the Remedial Action. The results of process confirmation sampling collected after completion of treatment indicated that the resulting TCLP lead concentrations were below the regulatory limit of 5 mg/l. The field demonstration indicated that an effective treatment and stabilization was achieved when 3 to 4 percent EnviroBlend® was used. This ratio was then used throughout the remainder of the treatment process. The lead-containing soil used for the field

demonstration was obtained from the northwest portion of the site where the total lead concentrations were the highest.

EnviroBlend®, a two-component reagent containing a phosphate compound and a buffer, was used as the stabilizing agent. The phosphate compound provides a source of phosphate ions, which form an insoluble salt with the lead. The buffer controls the pH in a range where metals are insoluble. The soil, EnviroBlend®, and a small amount of water were mixed in the pug mill until a homogeneous mixture was achieved. Dust control was achieved using a water spray. All stockpiles were covered at the end of each day to prevent precipitation from entering the stored materials.

The processing and staging areas were inspected on a daily basis and after each precipitation event to insure the integrity of the liner and cover systems. No problems were noted during the onsite treatment period. At the completion of onsite stabilization activities, the pug mill components and excavator were decontaminated by scraping to remove all adhering materials. These materials were added to the final batch of treated material prior to sampling. The pug mill was then removed from the processing area to allow for removal and offsite disposal of the 10-mil liner used to construct the treatment area.

### 3.2.2 Management of Rubble and Large Debris

During site excavation activities, rubble and large debris was sorted from the soil before the soil was mixed and treated in the pug mill. All rubble and debris was handled as contaminated material and was stabilized onsite prior to disposal offsite. Treatment was performed by mixing EnviroBlend® with the rubble and debris in rolloffs using a front-end loader to blend the mixture.

### 3.2.3 Process Confirmation Sampling

Stabilized soil was managed in stockpiles within the treatment area until sampling and analysis confirmed that a batch had been successfully treated. Tests for TCLP lead were performed at a frequency of 1 per 500 cubic yards of material. Samples for post-treatment testing were generally collected immediately after treatment. Retesting was performed on treated material if the TCLP results were greater than 80 percent of the required standard of 5 mg/l lead as analyzed by TCLP. Treated material that was analytically determined to meet the UTS for lead was transported offsite for disposal.

Stabilized or treated soil stockpiles of approximately 500 cubic yards each were labeled SPT-001 through SPT-016 and one rubble pile was labeled RPT-001 for the unpaved and parkway

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areas (Table 3) and CPT-1 through CPT-7 for the paved area (Table 4). The piles were sampled and analyzed for TCLP lead.

All samples were collected and analyzed for TCLP lead using EPA method 1311 and method 6010B in accordance with the approved RD/RA and associated QAPP. The analytical reports are presented in Appendix A, Volume II.

The results confirm successful stabilization of all batches with final TCLP lead concentrations ranging from less than 0.005 mg/l to 3.3 mg/l for the unpaved and parkway area, and ranging from less than 0.005 mg/l to 2.5 mg/l for the paved area, significantly below the 5 mg/l standard. Based on these results, none of the batches required retreatment prior to disposal.

Upon receipt of the analytical results confirming successful treatment, the stabilized material was temporarily stockpiled in a lined and bermed containment area until transportation could be arranged. The stockpiles were covered at all times when they were not being actively worked, at the end of each day and during periods of high wind or rain.

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## 4.0 Sampling and Analysis of Soil and Air

### 4.1 X-Ray Fluorescence Field Screening

#### 4.1.1 Screening Locations

XRF field screening was performed during soil excavation to maximize the efficiency of excavation operations and to help ensure that the EPA criterion for lead was met. Excavation of soil continued until the XRF measurement indicated total lead concentrations of less than 1,400 mg/kg at a given location. A total of 980 XRF screening locations were used for the unpaved area, a total of 90 screening locations were used for the parkway area, and a total of 265 screening locations were used for the paved area. XRF screening locations and associated CS sample locations and the analytical results and the depth for each screening location are summarized in Tables 5 and 6 for the unpaved and paved area, respectively. The locations of these screening locations are shown on Sheet 1. Screening locations were spaced at a frequency of 1 per 100 square feet over the base of the excavated area.

#### 4.1.2 XRF Screening Procedures

Prior to screening the excavated area, *in-situ* measurements of soil lead concentrations collected using the XRF were calibrated against the lead concentrations of corresponding soil samples analyzed in the laboratory. The data indicated that the XRF measurements were higher in concentration than the analytical results; however, as a screening tool, the XRF readings generally provided a relative indication that the total lead concentrations in the field were either above or below the cleanup criterion of 1,400 mg/kg.

Each location selected for XRF screening was flat and cleared of debris. The instrument's test guard was placed between the soil surface and the instrument prior to a measurement. Measurements were taken for 10 to 30 seconds following exposure of the x-ray source to maximize the accuracy of the data. One to three measurements were made at each location. The average value of the measurements for each location is shown in Tables 5 and 6.

Screening for lead concentrations in site soils was performed in the field using a hand-held XRF instrument. XRF screening was conducted by trained and certified field personnel. The instrument's internal calibration was checked against a reference standard once each day prior to use. The instrument was recalibrated if the measured lead concentration differed from the standard

by more than 10 percent. In addition, the XRF was recalibrated once during each continuous hour of use in the field.

## **4.2 Excavation Confirmation Sampling**

### **4.2.1 Confirmation Sampling Locations**

Once XRF screening results and visual observations indicated that the EPA criterion for lead had been attained, confirmatory soil samples were collected for laboratory analysis. The locations of these samples are shown on Sheet 1. Soil samples were collected from the base of the excavation at a frequency of approximately 1 per 1,000 square feet.

A total of 51 confirmation soil (CS) samples including an additional 6 duplicates and 5 equipment blanks were collected from the unpaved area and analyzed for total lead (Table 7). A total of 10 CS samples including 2 duplicates and 1 equipment blank were collected from the parkway area and analyzed for total lead (Table 7). In addition, three surface samples CS-301, CS-302, and CS-303 (Table 7) were collected from the parkway area (Sheet 1) and tested for total lead to assist with determining the volume of reagent needed to treat the parkway soils.

A total of 46 confirmation soil (CSP) samples including 5 duplicates and 3 equipment blank were collected from the paved area and analyzed for total lead (Table 8).

All samples were collected and analyzed for total lead using EPA method SW846 6010B in accordance with the approved RD/RA and associated QAPP. The analytical reports are presented in Appendix A, Volume II.

### **4.2.2 Confirmation Sampling Results**

All total lead concentrations for all final confirmation samples were detected at concentrations below the cleanup criteria of 1,400 mg/kg. The total lead concentration for soil sample location CS-034 collected at a depth of 4 feet bgs was 10,200 mg/kg; however, during removal of the tanks, this area was excavated to a depth of 9 feet bgs and total lead was detected at a concentration of 22.8 mg/kg in CS sample UST-16 (Table 7).

## **4.3 Perimeter Air Monitoring**

To demonstrate that ambient concentrations of air-borne lead remained within acceptable levels at the site perimeter, air monitoring was conducted in general accordance with 40 CFR 50, Appendix G and "Guidance for Ambient Air Monitoring at Superfund Sites", Report ASF-4, April

1993. High-volume particulate samplers were placed at four locations, one location upwind and three locations downwind of remediation activities. To establish baseline conditions at the site, initial monitoring was performed on May 14, 1999 (Table 9), a day when excavation was not being conducted onsite. During site excavation activities, monitoring was performed during the first two weeks of project start-up, at the time of potential maximum air emissions (i.e., movement of soils containing the elevated lead concentrations), and periodically thereafter. This sampling schedule provided monitoring protective of human health and the environment, and coverage characterizing the range of remedial activities and site conditions occurring at the site.

Perimeter air samples were collected using four General Metal Works model GMWL-2000 H high volume air sampling systems. These samplers were calibrated prior to use, according to the manufacturer's specifications. Calibration was checked on a weekly basis, and the instruments were recalibrated as needed.

Perimeter air samples were collected between May 14, 1999 to July 30, 1999, during site operations, and were analyzed for total suspended particulates (TSP) and total lead. Air monitoring was performed on May 14<sup>th</sup>, May 15<sup>th</sup>, May 18<sup>th</sup>, May 19<sup>th</sup>, May 22<sup>nd</sup>, June 4<sup>th</sup>, June 8<sup>th</sup>, June 15<sup>th</sup>, June 18<sup>th</sup>, June 22<sup>nd</sup>, June 30<sup>th</sup>, July 10<sup>th</sup>, July 22<sup>nd</sup>, and July 30<sup>th</sup> (Table 9). The resulting TSP and total lead concentrations for these samples are presented in Table 9, along with notes indicating site activities and site conditions for each date. Results were compared to the National Ambient Air Quality Standards (NAAQWS) for lead of 1.5 micrograms per cubic meters ( $\mu\text{g}/\text{m}^3$ ) and for particles of 10- microns or less (PM10) of 150  $\mu\text{g}/\text{m}^3$ . Typical particulate size distribution as weight of emissions for PM10 ranges between 10 and 55 percent of total particulate weight.

The results indicate that TSP and lead associated with onsite remedial activities remained within acceptable levels during the Remedial Action. On three occasions, June 22<sup>nd</sup>, July 22<sup>nd</sup>, and July 30<sup>th</sup>, upwind TSP concentrations exceeded the PM10 standard of 150  $\mu\text{g}/\text{m}^3$ . On two occasions, June 10<sup>th</sup> and July 30<sup>th</sup>, upwind total lead concentrations exceeded the lead standard of 1.5  $\mu\text{g}/\text{m}^3$ . The upwind concentrations were higher than the downwind concentrations because of observed significant dust levels contributed by wind blowing across the adjacent vacant properties to the west and east of the Dutch Boy site.

All samples were collected and analyzed for total lead using EPA method SW846 7421 and for TSP using EPA method CFR50B Appendix B and in accordance with the approved RD/RA and associated QAPP. The analytical reports are presented in Appendix B, Volume II.

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## **5.0     Underground Storage Tank Closure and Removal**

Nine underground storage tanks were present in the northwest portion of the site. The tanks had an aggregate capacity of approximately 150,000 gallons and consisted of three 30,000-gallon and six 10,000-gallon capacity tanks. The tanks stored linseed oil, mineral spirits, and fuel oil. In June 1986, the IEPA disposed of liquids, solids, and sludges contained in all tanks at the site. Therefore, the storage tanks are presumed empty. In 1987, IEPA assessed the structural integrity of the tanks and concluded that they were structurally sound and did not leak. The tanks were reportedly empty; however, upon inspection it was determined that each of the tanks contained storm water that had accumulated in the tanks.

### **5.1     Storm and Tank Water Removal and Disposal**

Approximately 113,500-gallons of storm water was pumped from the tanks and disposed of as non-hazardous waste at the Waste Management CID Biological Treatment Center in Calumet, Illinois. A sample of the water was collected in each tank and sent to Great Lakes Environmental for characterization. All samples were collected and analyzed for volatile organic compounds (VOCs) using EPA method 8260, polycyclic aromatic hydrocarbons (PAHs) using EPA method 8270, metals (including cadmium, total chromium, hexavalent chromium, copper, iron, mercury, nickel, and zinc) using EPA methods 3015A/6010B and method 7470 for mercury, hexavalent chromium using EPA method 7196, cyanide using EPA method 9012, total suspended solids using EPA method 160.2, biochemical oxygen demand (BOD) using EPA method 405.1, and fats, oil, and greases using EPA method 423.1, and in accordance with the approved RD/RA and associated QAPP. The analytical results are summarized in Tables 10, 11, and 12, and the reports are presented Appendix C, Volume II.

### **5.2     Tank Closure and Soil Sample Results**

The tanks were not registered. Registration documentation is provided in Appendix D, Volume II of the report.

The storage tanks were closed by removal in accordance with the requirements of Title 35 of the Illinois Administrative Code (IAC), Subtitle G, Part 731, Underground Storage Tanks; and Part 732, Petroleum Underground Storage Tanks. Removal of the tanks was performed in accordance

with the American Petroleum Institute Bulletin No. 1604, Recommended Practice for Abandonment or Removal of Underground Tanks. Additionally, the underground storage tank closure requirements of the City of Chicago, Department of Environment, and the Office of the Illinois State Fire Marshal, Division of Petroleum and Chemical Safety, were followed.

Prior to removal of the underground storage tanks, an "Application for Permit to Remove Underground Storage Tanks for Petroleum and Hazardous Tanks" will be filed with the City of Chicago, Department of Environment. The application included information on the site, the tank owner, and the tanks. The application was submitted by the tank removal contractor. The removal contractor, Remediation Services, Inc. was registered with the State of Illinois Fire Marshall's Office and the City of Chicago, Department of Environment.

As the excavation proceeded near tanks T-1 and T-2 (Sheet 1) soils were encountered that appeared to be impacted with petroleum hydrocarbons. One soil sample, CS-401, was collected near tank T-1, and submitted to the laboratory for analysis of benzene, toluene, ethylbenzene, and xylenes (BTEX) and polycyclic aromatic hydrocarbon (PAH)s. The analytical results, presented in Table 13, were compared to the Illinois Environmental Protection Agency (IEPA) Tiered Approach to Corrective Action Objectives (TACO) Tier I soil standards for industrial-commercial, soil exposure scenario for ingestion. This scenario was chosen because it is more restrictive than other exposure routes. BTEX were not detected and PAHs were not detected with the exception of benzo(a)anthracene, chrysene, fluoranthene, and pyrene detected at concentrations of 24, 66, 70, and 52 micrograms per kilogram ( $\mu\text{g/kg}$ ), below the TACO Tier 1 standards (Table 13).

Each tank was covered with a concrete pad that was 2.0 to 4.0 feet thick and each tank was totally encased in concrete and flowable fill (low psi concrete). Approximately 234 cubic yards of concrete were removed from the underground storage tank area and disposed of offsite. Approximately 925 cubic yards of flowable fill were removed from around the tanks. Additional excavated soil was generated from the removal of the nine underground storage tanks. Areas where soil had been excavated to a depth of 4 feet bgs were further excavated to a 9 to 13 feet bgs. A hard dense clay as encountered at a depth from 9 to 13 feet bgs.

The atmosphere in the underground storage tanks and the excavation area was monitored with a Combustible Gas Indicator (CGI), for flammable or combustible vapor concentrations until the tanks were removed from the excavations. Monitoring of the storage tanks was performed at three levels in the tanks (bottom, middle, and top). No flammable vapors were detected.

A Tank Specialist from the City of Chicago was onsite before cutting and cleaning operations or removal of the tanks proceeded. The tanks were removed offsite for proper recycling at a scrap metal dealer. A certificate of destruction was obtained verifying disposal of the tanks. A Notification for Underground Storage Tanks form was filed with the Office of the Illinois State Fire Marshal, Division of Petroleum and Chemical Safety within 30 days after the closure of the storage tanks. Documents regarding tank closure are presented in Appendix D, Volume II of this report.

A thin-walled tube sample was collected by ESC from the clay soil beneath the tanks and submitted to Soil Engineering Testing, Inc., of Bloomington Minnesota for testing of hydraulic conductivity. The soil was identified as a sandy lean with a little gravel. The hydraulic conductivity for clay sample was  $1.8 \times 10^{-8}$  centimeters per second (cm/s). A copy of the laboratory report is presented in Appendix E, Volume II of this report.

Groundwater was not encountered during the tank excavation.

Soil excavated from around tanks T-1 and T-2 were stockpiled as SPU-031. A sample from SPU-031 was collected and submitted to the laboratory for analysis of VOCs, PAHs, and petroleum hydrocarbons consisting of gasoline range organics (GRO) and diesel range organics (DRO). The analytical results, presented in Table 14, were compared to the IEPA TACO Tier I soil standards for industrial-commercial, soil exposure scenario for ingestion. VOCs were not detected and PAHs were not detected with the exception of benzo(a)anthracene, benzo(a)pyrene, benzo(g,h,i)perylene, chrysene, fluorene, indeno(1,2,3-cd)pyrene, 1-methylnaphthalene, 2-methylnaphthalene, phenanthrene, and pyrene detected at concentrations of 2.3, 1.7, 1.1, 0.72, 5.8, 1.1, 26, 21, 19, and 3.8 mg/kg, below the TACO Tier 1 standards (Table 14). DRO was detected at a concentration of 4,100 mg/kg.

A total of 17 confirmation soil samples were collected from around the underground storage tanks at a depth of nine feet bgs including 2 duplicates and 2 equipment blanks and analyzed for total lead. The results are presented in Table 7. Total lead concentrations for all underground storage tank (UST) samples were detected at concentrations below the cleanup criteria of 1,400 mg/kg with the exception of one sample with total lead detected at a concentration of 1,700 mg/kg, collected at a depth of 9 feet bgs.

A total of 4 UST confirmation samples (UST-001 through UST-004) were collected from around the two 10,000-gallon fuel oil and mineral spirits underground storage tanks, T-1 and T-2

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(Sheet 1), at a depth of 6.5 and 7.5 feet bgs and analyzed for VOCs and SVOCs. The VOC and SVOC results for UST-001 through UST-004 are presented in Tables 15 and 16, respectively.

A total of 4 UST confirmation samples (UST-006 through UST-009, including 1 duplicate, were collected from around the four 10,000-gallon linseed oil and mineral spirits underground storage tanks, T-3 through T-6 (Sheet 1), at a depth of 13 feet bgs and analyzed for BTEX and PAHs. The BTEX and PAHs results for UST-006 through UST-009 are presented in Tables 15 and 16, respectively.

A total of 8 UST confirmation samples (UST-010 through UST-017), including 1 duplicate, were collected from around the three 30,000-gallon linseed oil and mineral spirits underground storage tanks, T-7 through T-9 (Sheet 1), at a depth of 9.0 feet bgs and analyzed for BTEX and PAHs. The BTEX and PAHs results for UST-010 through UST-017 are presented in Table 17.

A total of one UST confirmation sample (UST-005) was collected from the piping area near the loading dock at a depth of 2.0 feet bgs and analyzed for BTEX and PAHs. The BTEX and PAHs results for UST-005 are presented in Table 18.

Detected concentrations of various VOCs, SVOCs, BTEX, and PAHs were below the IEPA TACO Tier I soil standards for industrial-commercial exposure via ingestion.

The flowable fill was tested VOCs, PAHs, total lead (Table 19) and TCLP lead, flash point, paint filter and pH (Table 20). The results indicated that the flowable fill could be used as backfill in the deeper part of the tank excavation. Analytical results for total lead concentrations were between 340 to 486 mg/kg and leachable lead was not detected. The flowable fill was used as backfill from the bottom of the underground storage tank excavations to no higher than a depth of 4 feet bgs.

All samples were collected and analyzed using EPA methods in accordance with the approved RD/RA and associated QAPP. The analytical reports are presented in Appendix A, Volume II.

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## **6.0 Debris Pile Removal and Disposal**

A large debris pile, estimated to contain 800 cubic yard of debris, was present on the southern portion of the site. The pile contained debris from the post-1980 demolition activities and contained some asbestos-containing material (ACM). In addition, a smaller debris pile, estimated to contain 50 cubic yards, was present along the loading dock, south of the perimeter fence. This pile contained brick, mortar, and concrete.

The Extent of Contamination Survey, dated November 19, 1997, prepared by Environ, identified asbestos-containing material in the large debris pile. Specifically, two of four samples collected from the pile were determined to contain greater than 1 percent asbestos. ACM consisted of cementitious transite and roofing tar and felt. The Extent of Contamination Survey also indicated that TCLP lead was not detected above 5.0 mg/l in four samples collected from the debris pile. However, ESC observed soil mixed in with the debris at the bottom of the large debris pile. ESC collected one sample, DP-001, and submitted the sample to the laboratory for TCLP lead analysis. TCLP lead was detected at a concentration of 13.3 mg/l (Table 21). Approximately 40 cubic yards of debris that potentially contained lead impacted soil was treated with reagent before transported offsite. Sample SWDP-1 was collected from the treated debris and tested for TCLP lead. TCLP lead was not detected in sample SWDP-1 (Table 21). The treated part of the debris pile was disposed of as non-hazardous waste. The analytical are presented in Appendix A, Volume II.

Removal of the debris pile was performed in accordance with the "Asbestos Abatement Workplan for the Former Dutch Boy Site Construction Debris Pile," dated May 3, 1999, prepared in accordance with applicable EPA Occupational Safety and Health Administration, State of Illinois, and local regulations and was signed by David Slocum, CIH Illinois ID#100-4883, of NOVA Consulting Group, an EPA accredited and Illinois licensed asbestos project designer.

NOVA provided air monitoring services during the removal of the debris pile. The debris pile was wetted during the removal process.

Approximately 350 cubic yards from the asbestos-containing debris piles that consisted of 275 cubic yards of ACM, 45 cubic yards of asphalt, brick, and concrete, and 30 cubic yards of rebar, were removed and transported offsite for disposal at Laraway RDF, in Elwood Illinois.

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## **7.0 Loading and Disposal of Treated and Untreated Material**

Non-hazardous soil and stabilized soil were shipped to the Waste Management CID RDF landfill in Calumet, Illinois, for disposal. A total of 15,610 tons of material, including 1,141 tons of non-hazardous, untreated soil and 14,469 tons of stabilized soil and reagent were loaded and shipped offsite to the disposal facility.

A total of 8,180 tons of material, including 612 tons of non-hazardous, untreated soil and 7,568 tons of stabilized soil and reagent were from the unpaved area; a total of 1,066 tons of material, including 409 tons of non-hazardous, untreated soil and 657 tons of stabilized soil and reagent were from the parkway area; and, a total of 3,182 tons of material, including 120 tons of non-hazardous, untreated soil and 3,062 tons of stabilized soil and reagent were from the paved area.

Each shipment was accompanied by a properly completed, non-hazardous waste manifest and, for stabilized soil shipments only, laboratory analytical data showing the results of the TCLP lead analyses. Copies of all of the non-hazardous waste manifests are retained by ESC.

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## 8.0 Site Restoration

The excavated area was backfilled after completion of the remedial action to approximate pre-excavation elevations and graded to drain, using approximately 11,285 cubic yards of clean material obtained from offsite. Approximately 8,079 cubic yards of backfill were placed in the unpaved area; approximately 700 cubic yards of backfill were placed in the parkway area; and, approximately 2,506 cubic yards of backfill were placed in the paved area.

The backfill was placed into the excavations in maximum 8-inch lifts and compacted at each lift. Backfill compaction testing in the unpaved area was performed by Professional Service Industries, Inc, of Hillside Illinois. The results of the backfill testing are provided in Volume II. Backfill testing was not in the paved area because of the shallow excavation depth in some areas (0.5 to 2.0 feet bgs) and because of the footings and foundations encountered during the excavation (Sheet 1).

The backfill was non-saturated, well-graded soil provided by B & B Pulverizing of Frankfort, Illinois. It was analyzed and certified free of hazardous substances and deleterious materials such as large roots, rocks or vegetative matter. Table 22 summarizes the results of analysis of samples collected from the backfill source. The backfill fill material was analyzed for VOCs, SVOCs, organopesticides, polychlorinated biphenyls (PCBs), petroleum hydrocarbons consisting of gasoline range organics (GRO) and diesel range organics (DRO), total cyanide, and metals (Table 22).

VOCs, SVOCs, PCBs, DRO, GRO, total cyanide, and organopesticides were not detected with the exception of Dieldrin, an organopesticide, detected at a concentration of 25 µg/kg. Antimony, cadmium, mercury, silver, sodium and thallium were not detected but various metals were detected at concentrations similar to background levels that are typical for this region.

All samples were collected and analyzed for total lead using EPA methods and in accordance with the approved RD/RA and associated QAPP. The analytical reports are presented in Volume II.

The backfilled areas were seeded and mulched after backfilling was completed.

---

## **9.0    Supplemental Project Information**

All on-site operations and operating conditions were documented in accordance with the requirements of the RD/RA and the Technical Specifications (March 9, 1999) and the QAPP. The following supplemental project information is retained by ESC:

- Manifests and Waste Profiles
- Treatment and Reagent Load Logs
- Daily Inspection/Quality Control Reports
- Daily Safety Meeting and Summary Reports
- Photographs

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## **10.0 Summary of Results and Conclusions**

The Dutch Boy site located at 12000 to 12054 South Peoria Street and 901 to 935 West 120<sup>th</sup> Street, Cook County, Chicago, Illinois has been successfully remediated. The Remedial Action was conducted by ESC, on behalf of NL Industries, Inc., during the period from May 6, 1999 and October 22, 1999, in accordance with the RD/RA Work Plan and the terms of the March 26, 1998, Unilateral Administrative Order (UAO) issued to NL by the EPA. In addition, Remedial Action was conducted in accordance with the SRA and the June 9, 1999, Consent Decree between the City of Chicago and NL. The Remedial Action addressed the EPA established risk-based cleanup goal for lead of 1,400 mg/kg for the unpaved, parkway, and paved areas. Soil remediation at the site consisted of excavation, testing, and onsite stabilization of soil containing concentrations of lead above the EPA criterion of 1,400 mg/kg, and off-site disposal of soil.

A total of approximately 11,969 tons of soil were excavated from the site. A total of 7,848 tons of soil were excavated from the unpaved area of the site, a total of 1,046 tons of soil were excavated from the parkway area, and a total of 3,075 tons of soil were excavated from the paved area of the site.

In-situ lead screening was performed using a portable XRF. Excavation was continued in an area until the XRF indicated that the total lead content of the soil was less than the EPA criterion of 1,400 mg/kg. Confirmation soil samples were then collected from the excavation for laboratory analysis to confirm the XRF results and demonstrate that the EPA criterion was met.

A total of approximately 10,828 tons of soil were stabilized with 659 tons of the reagent EnviroBlend®, using the process described below. A total of 7,236 tons of soil were treated from the unpaved area, a total of 637 tons of soil were treated from the parkway area, and a total of 2,955 tons of soil were treated from the paved area.

Non-hazardous soil and stabilized soil were shipped to the Waste Management Subtitle D CID RDF landfill in Calumet, Illinois, for disposal. A total of 15,610 tons of material, including 1,141 tons of non-hazardous, untreated soil and 14,469 tons of stabilized soil and reagent were loaded and shipped offsite to the disposal facility. A total of 8,180 tons of material, including 612 tons of non-hazardous, untreated soil and 7,568 tons of stabilized soil and reagent were from the unpaved area; a total of 1,066 tons of material, including 409 tons of non-hazardous, untreated soil and 657 tons of stabilized soil and reagent were from the parkway area; and, a total of

---

3,182 tons of material, including 120 tons of non-hazardous, untreated soil and 3,062 tons of stabilized soil and reagent were from the paved area.

Remedial action also included removal and closure of nine underground storage tanks and lead impacted soil excavated from the area around the tanks. Removal and offsite disposal of two debris piles.

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**Figure**

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## Tables

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Appendix A - Laboratory Reports and Chain-of-Custody Forms - Soil Samples

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Appendix B - Laboratory Reports and Chain-of-Custody Forms - Air Quality Samples

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**Appendix C - Laboratory Reports and Chain-of-Custody Forms - Water Samples**

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## Appendix D - Tank Registration and Closure Documents

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## Appendix E - Soil Testing Results - Hydraulic Conductivity

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**Appendix F - Soil Testing Results - Compaction Results**

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**124687.01**  
**DIRECTORY OF FILES**  
**REMEDIAL ACTION REPORT**  
**DUTCHBOY SITE**  
**CHICAGO, ILLINOIS**  
**VOLUME 1 OF 2**  
**REPORT, FIGURES, AND TABLES**  
**VOLUME 2 OF 2**  
**APPENDICES**  
**DECEMBER 22, 1999**

**Main document - g:\clients\dutchboy\remrpta.doc**

**Figures:**

Figure 1 - colored cut and paste

Sheet 1 - PJCADD

**Tables: g:\clients\dutchboy\tables\\*.xls**

Table 1 - \tab1

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Table 3 - \tab3

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**List of Appendices: (Volume II)**

Appendix A - Laboratory Reports and Chain-of-Custody Forms - Soil Samples

Appendix B - Laboratory Reports and Chain-of-Custody Forms - Air Quality Samples

Appendix C - Laboratory Reports and Chain-of-Custody Forms - Water Samples

Appendix D - Tank Registration and Closure Documents

Appendix E - Soil Testing Results - Hydraulic Conductivity

Appendix F - Soil Testing Results - Compaction Results

Exhibit F



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**SUPPLEMENTAL REMEDIAL ACTION WORK PLAN**

**DUTCH BOY SITE  
CHICAGO, ILLINOIS**

**(Revised 8/8/99)**

**PREPARED**

**BY**

**ENVIRONMENTAL STRATEGIES CORPORATION**

**JULY 1, 1999**

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**List of Appendices:**

Appendix A - Figures  
Appendix B - Cost Estimate  
Appendix C - Schedule

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**Acronym List**

bgs	below ground surface
EOC	Extent of Contamination
Environ	Environ International Corporation
EPA	U.S. Environmental Protection Agency
EP	extraction procedure
ESC	Environmental Strategies Corporation
E&E	Ecology and Environment, Inc.
Harza	Harza Environmental Services, Inc.
IAC	Illinois Administrative Code
IDPH	Illinois Department of Public Health
IEPA	Illinois Environmental Protection Agency
mg/kg	milligrams per kilogram
mg/l	milligrams per liter
NL	NL Industries, Inc.
OSC	On-Scene Coordinator
QAO	Quality Assurance Officer
QAPP	Quality Assurance Project Plan
RCRA	Resource Conservation and Recovery Act
RD/RA	Remedial Design/Remedial Action
SAIC	Science Applications International Corporation
Simon	Simon Hydro-Search, Inc.
SRA	Supplemental Remedial Action
TCLP	Toxicity Characteristic Leaching Procedure
Toxcon	Toxcon Engineering Company, Inc.
UAO	Unilateral Administrative Order
XRF	X-ray fluorescence

---

## 1.0 Introduction

### 1.1 General

Environmental Strategies Corporation (ESC), on behalf of NL Industries, Inc. (NL), has prepared this Supplemental Remedial Action (SRA) Work Plan (Work Plan) for the former Dutch Boy site in Chicago, Cook County, Illinois. The objective of the SRA is to reduce the threat to human health and the environment posed by soil beneath the paved area at the site containing concentrations of lead above the United States Environmental Protection Agency (EPA) established risk-based cleanup goal of 1,400 milligrams per kilogram (mg/kg).

This SRA is being conducted in accordance with the June 9, 1999, Consent Decree between the City of Chicago and NL. The purpose of the SRA is to mitigate and manage risks posed by lead present in shallow soil under paved areas at the Site. The SRA describes the additional work that will be performed to abate the risks associated with lead-containing soil beneath a paved area at the site.

NL is implementing a Remedial Design/Remedial Action (RD/RA) at the site in accordance with the terms of the March 26, 1996, Unilateral Administrative Order (UAO)<sup>1</sup> issued to NL by the EPA. The RD/RA was designed to implement the EPA-approved alternative to abate the risks associated with surface soil containing lead above the risk-based cleanup goal. The approved alternative implemented under the RD/RA was detailed in the Risk Management Plan prepared by Environ International Corporation (Environ), dated December 1998.

### 1.2 Summary of Work

NL will excavate, treat, and dispose of off-site soil with lead concentrations over 1,400 mg/kg under those paved areas at the site identified as SS19, SS25, SS26, SS27, and SS28, as identified in the Risk Management Plan. Figure 3 identifies the area where the soil will be excavated. Soil will be excavated to at least the same extent and in accordance with the cleanup standards set forth in Section 3.4 of the RD/RA Work Plan (ESC 1999) prepared for the site.

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<sup>1</sup> United States Environmental Protection Agency, (USEPA 1996). Administrative Order Pursuant to Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as Amended, 42 U.S.C. Section 9606(a), and Section 7003 of the Resource Conservation and Recovery Act, as Amended, 42 U.S.C. 6973. March 26, 1996.

---

Approximately 3,250 square yards of concrete will be removed and disposed of offsite. Approximately 1,150 cubic yards of lead-containing soil will be excavated and treated onsite by stabilization to eliminate the toxicity characteristic (nonhazardous). The treated soil will be disposed of offsite at a landfill permitted under Subtitle D of the Resource Conservation and Recovery Act (RCRA).

The paved areas of the site to be removed appear to be concrete slabs from former site buildings. Portions of the concrete surfaces are cracked and in disrepair.

---

## **2.0 Site Description**

### **2.1 Site Location and Description**

The former Dutch Boy site is located at 12000 to 12054 South Peoria Street and 901 to 935 West 120<sup>th</sup> Street, Chicago, Cook County, Illinois (Figures 1 and 2, Appendix A). The site comprises 5.2 acres and is situated in a primarily industrial area. It is bound to the north by West 120<sup>th</sup> Street, to the east by South Peoria Street, to the south by rail lines of the Illinois Central Gulf Railroad, and to the west by an empty lot.

There are no buildings standing at the site although concrete building slab foundations cover much of the site. Approximately 75-percent of the site is under concrete cover. The concrete slabs are believed to be up to 1-foot thick. The unpaved areas run in strips from north to south along the western edge of the property and extend to the southeast corner of the site.

### **2.2 Site History**

From 1906 to 1980, the site was used to manufacture and refine white lead (i.e., lead carbonate) and lead oxide for lead-based paints and other lead-related products. No manufacturing has been conducted at the site since 1980. Based on previous reviews of Sanborn maps and historical aerial photographs, building demolition occurred at the site from the mid-1980s through 1996.

Various industrial activities have been conducted in the vicinity of the site, including an aluminum foundry, metal machining shops, vehicle and heavy equipment maintenance and storage, junkyards, coal yards, and other metal treatment, forging finishing, and pickling operations. However, most of the properties surrounding the site are currently abandoned or vacant, it is likely that historic activities at these facilities have influenced lead concentrations in soils in the vicinity of the Dutch Boy site.

### **2.3 Topography**

The site surface is generally flat. Most of the site is either at ground surface or elevated approximately four feet to loading-dock level. The ground elevation at the site is approximately 610 feet above mean sea level (United States Geological Survey 7.5' Blue Island, Illinois

Quadrangle, 1993). Area topography generally slopes to the south towards the Little Calumet River located over 1 mile south of the site.

## **2.4 Summary of Previous Investigations**

Environmental investigations began at the site in 1986 with an Illinois Environmental Protection Agency (IEPA) conducted removal action. This removal was done in three phases. IEPA removed and disposed of surficial solids, both suspected and known to contain lead and asbestos during Phase I in June 1986.

IEPA sampled, analyzed and disposed of liquids, solids and sludges contained in all aboveground and underground storage tanks during Phase II in November 1986. IEPA also removed and disposed of all existing process and production equipment, baghouses, mixing tanks, screw conveyors, hoppers, masonry rubble, asbestos, and debris located in and around the building. The freestanding walls of the buildings were demolished during Phase II. IEPA assessed the structural integrity of the underground storage tanks and concluded that they were structurally sound and did not leak during Phase III in 1987. IEPA also sampled and analyzed soil for lead. Results indicated that 130 cubic yards of soil on and adjacent to the site contained Extraction Procedure (EP) toxicity extract lead concentrations greater than 5 milligrams per liter (mg/l) and approximately 140 cubic yards of soil contained greater than 1 percent lead. An EP toxicity extract lead concentration equal to or greater than 5 mg/l was defined as a hazardous waste under the RCRA regulations in effect at that time. The soil was not removed.

In June 1987, Toxcon Engineering Company, Inc. (Toxcon) conducted a field investigation at the site on behalf of NL. Samples were collected at 34 locations onsite and in the parkway across the street from the site. A soil sample taken from the northeast portion of the site contained a total lead concentration of 11,400 mg/kg. A second sample taken from the west side of the site contained 50,000 mg/kg of total lead. This second sample also had an EP toxicity extract lead concentration of 41 mg/l. In addition, analysis of a third sample taken from the parkway northeast of the site had an EP toxicity lead extract concentration of 4.6 mg/l. Based on these sample results and discussions with IEPA, Toxcon conducted additional field sampling in February 1988 and concluded that one onsite area and two offsite areas contained EP toxicity extract lead concentrations greater than 5 mg/l.

In 1991, EPA's contractor, Ecology and Environment, Inc. (E & E) conducted a reconnaissance at the former Dutch Boy site. E & E observed small piles of general household and construction refuse scattered over the site. Since abandoned building structures containing potentially hazardous substances and lead-containing soils surrounding these structures were still present, E & E concluded that release of hazardous substances to the air posed a potential threat to human health. E & E recommended that the site be secured to prevent access by the public and that samples of the building structures and soils be taken to determine whether the release of hazardous substances from the site posed a potential threat to the community.

On August 10, 1993, EPA, IEPA and E & E conducted a site assessment of the former Dutch Boy property. No soil piles or exposed soils were identified at the site and no soil samples were collected. On August 25 and 26, 1993, Simon Hydro-Search, Inc. (Simon) conducted an environmental assessment of the site on behalf of NL. Eleven soil samples were collected from seven onsite locations. In samples from the area of the loading dock and railroad spur on the west side of the site, total lead concentrations as high as 45,700 mg/kg and Toxicity Characteristic Leaching Procedure (TCLP) lead extract concentrations as high as 694 mg/l were measured. A TCLP extract lead concentration equal to or greater than 5 mg/l is defined as a RCRA hazardous waste (hazardous waste code D008).

On May 10, 1994, Harza Environmental Services, Inc. (Harza) conducted a site investigation on behalf of the City of Chicago. Harza collected and analyzed 13 wipe samples and 13 scrape samples from the former 3-story mill building at the site. Seven of the 13 wipe samples and 8 of the 13 scrape samples met the Illinois Department of Public Health (IDPH) definition of a lead-bearing substance. Six soil samples collected from depths between 6 and 15 feet below ground surface (bgs) were analyzed for TCLP lead. One other soil sample was collected at a depth of 1.0 to 2.5 feet bgs. All soil samples had TCLP lead concentrations at or below the 5.0 mg/l RCRA concentration for hazardous waste.

On June 8, 1995, an EPA on-scene coordinator (OSC) and staff from E & E and Harza conducted another site assessment. Six soil samples were collected and analyzed for lead. Total lead was detected in onsite soils at concentrations ranging from 1,540 mg/kg to 31,700 mg/kg. A total lead concentration of 21,200 mg/kg was reported in a sample collected from the east side of the building structure near a fire hydrant. A total lead concentration of 31,700 mg/kg was

reported in another sample collected from the east side of the northernmost loading dock on the west side of the site. This sample also had a TCLP lead extract concentration of 351mg/l. In an August 25, 1995, Site Assessment Report, E & E concluded that the site should be secured and an extent of contamination study should be conducted to determine the extent of lead-containing soil at the site.

In February 1996, EPA's contractor, Science Applications International Corporation (SAIC), reviewed the available reports on the site and assessed the likelihood of a potential release of lead from the historic manufacturing processes. SAIC calculated that approximately 166 tons of lead were released into the air between 1906 and 1980 from the historic manufacturing activities. Assuming that each of the manufacturing processes site had a short stack, low exit velocity, and low temperature, SAIC predicted that most of the emissions would have settled out within several hundred feet.

In March 1996, EPA prepared an interim final risk assessment for the site. The risk assessment assumed that the site would be used for an occupational scenario and that it would not be frequented by small children. Based on these assumptions, EPA calculated a risk-based clean-up goal of 1,400 mg/kg as the average concentration of lead in soil, which would allow for risks within an acceptable range. In addition, the risk assessment recommended that any hot spots which are significantly higher than the 1,400 mg/kg be remediated even if, when averaged, they contribute to an acceptable range of risk.

In 1997 an Extent of Contamination (EOC) survey was conducted for the site by Environ Corporation. The primary objective of the EOC survey was to evaluate the vertical and horizontal extent of lead in soil at the site and in its vicinity. Over 350 samples from 151 locations were collected and analyzed. The extent of onsite soil containing lead at concentrations greater than the 1,400 mg/kg average risk-based cleanup criteria was found to be generally limited to the western, unpaved portions of the site. The areas most affected are the former rail spurs leading to the loading dock in the northwestern portion of the site. Surface soil (i.e., 0.0 to 0.2 feet bgs) lead concentrations in the rail spur area range from 5,000 to 10,000 mg/kg.

Selected soil samples also were analyzed for several other parameters (e.g., asbestos, petroleum hydrocarbons, and volatile organic compounds) to evaluate their impact on remedial

---

## **6.0 Project Organization**

The organizational structure for implementing the Remedial Action is shown on Figure 4. ESC is the principal consultant to NL and is responsible for the performance of all services required to implement the Remedial Action. James Bulman, Senior Vice President of ESC, is ESC's Project Director. He has the authority to commit the firm's resources to accomplish the project objectives. He has ultimate responsibility for ESC and the Contractor's performance and with the Project Manager from the ESC management team for the project.

ESC's Project Manager, Gilbert Gabanski, is responsible for the day-to-day direction and management of all ESC's activities as well as of ESC's contractors. Mr. Gabanski has the responsibility and authority to procure the necessary support services and equipment for implementing the Remedial Action. He has prime responsibility for scheduling, technical matters, and reporting all of ESC's activities and will report directly to the Project Director.

ESC's Engineer of Record, John Black, P.E., is responsible for the engineering design and specifications for the Remedial Action. He is an Illinois-registered Professional Engineer. He will ensure that Remedial Action work is performed in strict compliance with the approved designs and specifications. He has the authority to halt or reject work that does not meet the requirements of the engineering design and specifications.

ESC's Quality Assurance Officer (QAO), John Johnson, is responsible for all aspects of implementing the Quality Assurance Project Plan (QAPP) related to this Remedial Action. He will coordinate with the ESC Project Manager and QAO's of all contractors. He will report directly to ESC's Project Manager or Project Director when corrective action is required as a result of compliance performance audits.

ESC's Health and Safety Officer, Craig Ramich, is responsible for preparing and ensuring that the Health and Safety Plan is followed. He will ensure that all Remedial Action activities are performed in a safe manner to eliminate danger to personnel performing the field activities. He will coordinate with the ESC Project Manager and contractors regarding all procedures related to health and safety. He will report directly to ESC's Project Manager and file injury reports, as required.

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## **7.0 Project Schedule and Reporting**

Appendix E presents a project schedule for implementing the proposed SRA. This schedule is subject to change if the extent of lead-containing soil requiring excavation and treatment under this SRA increases.

Within 60 calendar days after completion of the Supplemental Remedial Action, ESC will submit a summary report to the City of Chicago detailing the activities performed during the SRA. The report will include a listing of the quantities and types of materials removed, a discussion of removal and disposal options considered for those materials, a listing of the ultimate destinations of those materials, a presentation of the analytical results of all sampling and analyses performed, a detailed cost summary, and accompanying appendices containing all relevant documentation generated during the SRA (e.g., manifests, invoices, bills, contracts, and permits.) The report will also include a certification of its truth, accuracy, and completeness.

---

## 8.0 References

Environ Corporation. (Environ, 1997). Draft Extent of Contamination Survey, Dutch Boy Site, Chicago, Illinois. November 19, 1997.

Environ International Corporation. (Environ, 1998a). Risk Management Plan, Dutch Boy Site. December 1998.

Environmental Strategies Corporation (ESC, 1999). Remedial Design/Remedial Action Work Plan, Dutch Boy Site. March 9, 1999.

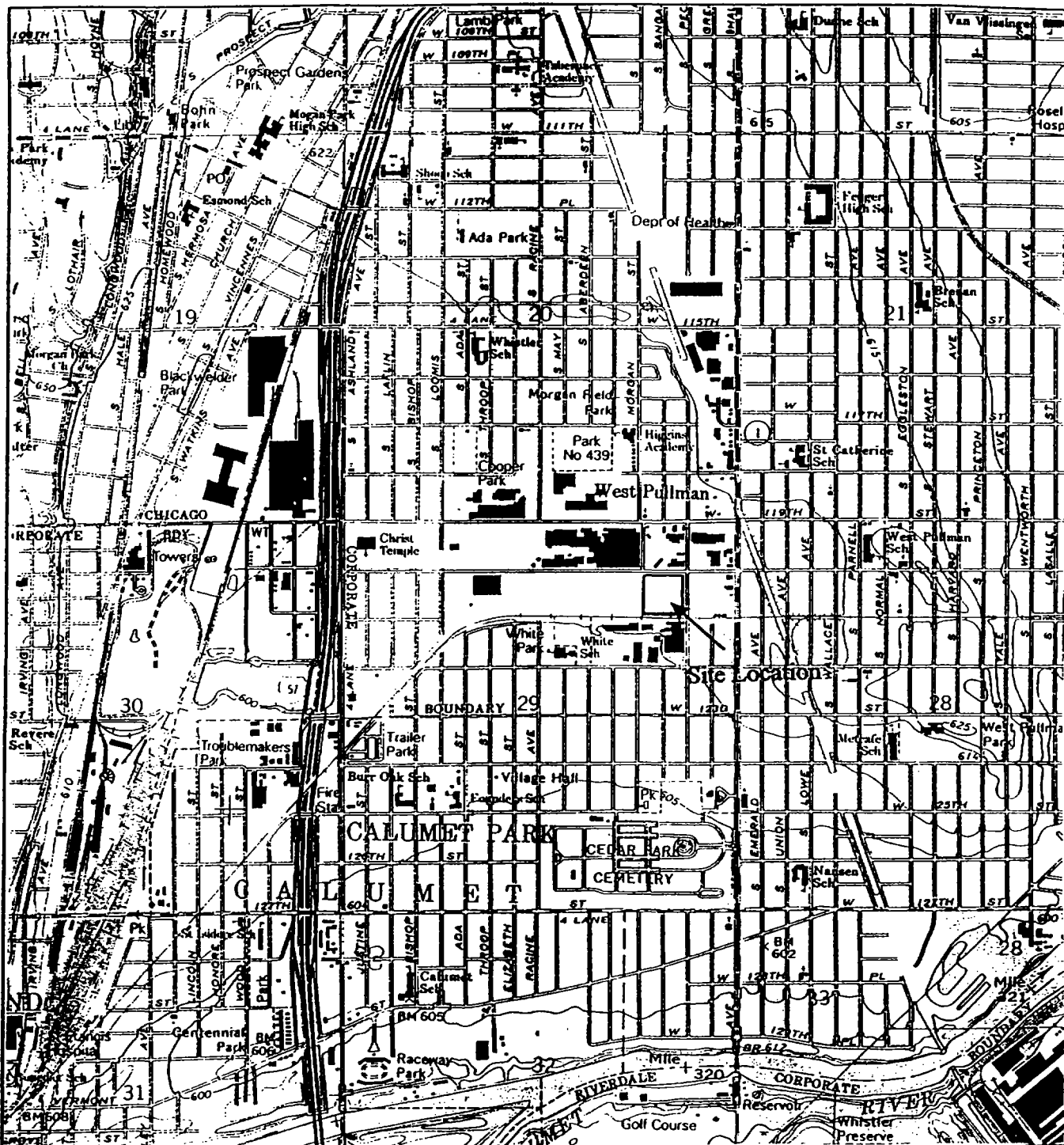
United State Department of Agriculture, Natural Resource Conservation Service (USDA 1996). Illinois Urban Manual, A Technical Manual Designed for Urban Ecosystem Protection and Enhancement. 1995.

United States Environmental Protection Agency, (USEPA 1986). Superfund Remedial Design and Remedial Action Guidance, OSWER Directive 9355-0-4A. June 1986.

United States Environmental Protection Agency, (USEPA 1996). Administrative Order Pursuant to Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as Amended, 42 U.S.C. Section 9606(a), and Section 7003 of the Resource Conservation and Recovery Act, as Amended, 42 U.S.C. 6973. March 26, 1996.

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## Appendix A - Figures

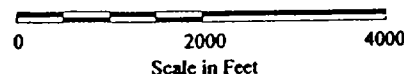


# Reference

Blue Island Topographic Quadrangle  
 Illinois - Cook Co., US  
 Photorevised 1993 Scale 1:24,000



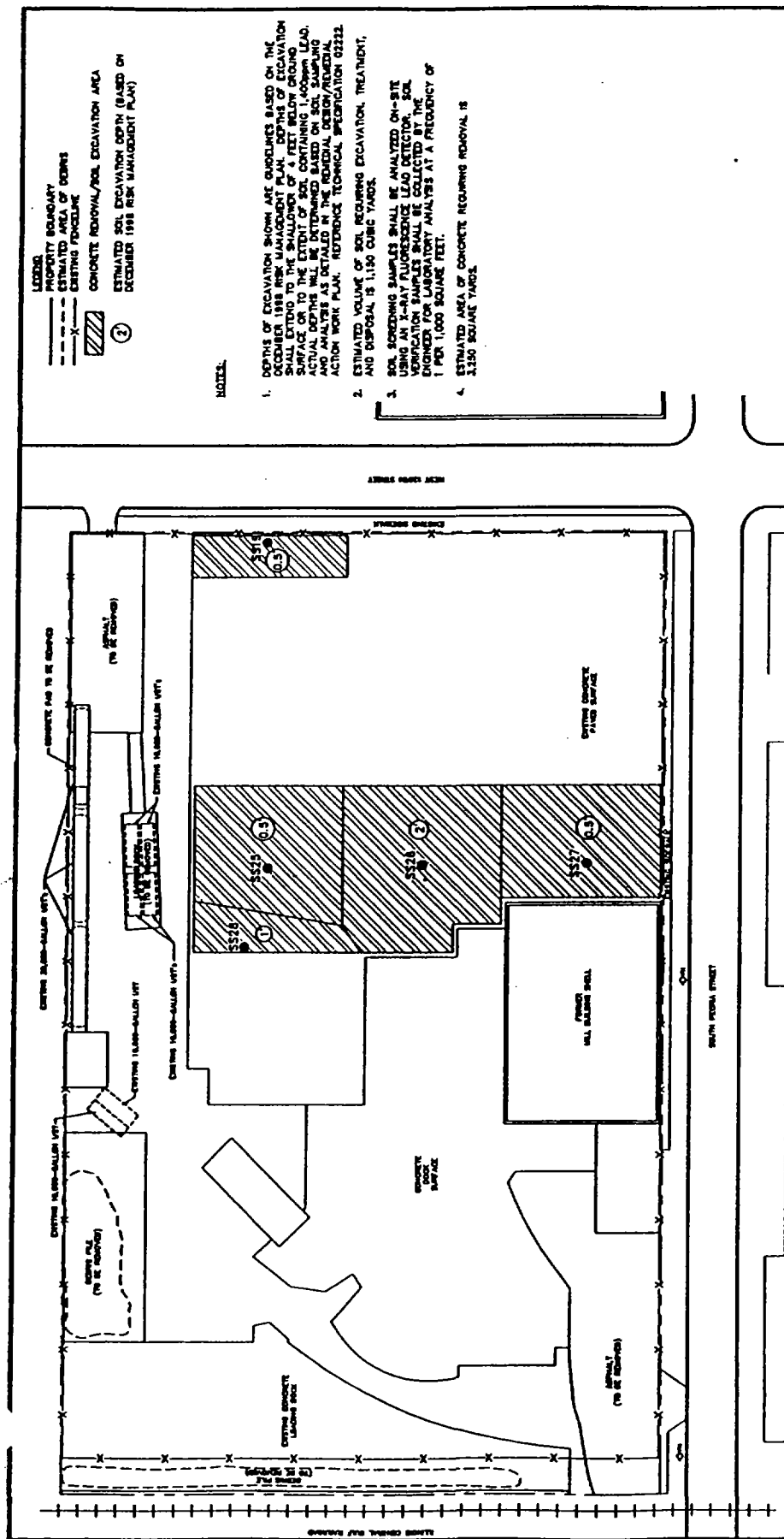
Quadrangle Location



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Figure 1  
 Site Location  
 Dutch Boy Site  
 Chicago, Illinois






SAMPLE LOCATION	BASE OF FILL (ft. bgs)	DEPTH (ft. bgs)	LEAD (mg/kg)
SS19	2.5	0.0-0.2	7,300
		0.0-0.2	43/44
		0.2-1.0	51
SS25	2.6	0.0-0.2	1,740
		0.2-1.0	770
SS26	2.8	0.0-0.2	400
		0.2-1.0	5,900
SS27	1.9	1-2	1,470
		0.0-0.2	16,300
SS28	NE	0.2-1.0	460
		0.0-0.2	8,300
SS29	NE	0.2-1.0	3,200
		0.0-0.2	3,200

**Figure 3**  
**Supplemental Remedial Action Excavation Plan**  
**Dutch Boy Site**  
**Chicago, Illinois**

REFERENCE: "PLOT PLAN, FORMER PLANT SITE, CHICAGO ILLINOIS,"  
PREPARED BY SIMON HYDRO-SEARCH, DATED 11/01/93.



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City of Chicago  
Department of Environment

NL Industries, Inc.

Environmental Strategies Corporation  
Project Director  
James Bulman

Environmental Strategies Corporation  
Project Manager  
Gilbert Gabanski

Environmental Strategies Corporation  
Engineer of Record  
John Black, P.E.

Environmental Strategies Corporation  
Health & Safety Officer  
Craig Ramich, C.S.P.

Environmental Strategies Corporation  
Quality Assurance Officer  
John Johnson

Contractors  
Remediation Services, Inc.



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Figure 4  
Project Organizational Chart  
Dutch Boy Site - Supplemental Remedial Action  
Chicago, Illinois

---

**Appendix B - Cost Estimate**

Table 1

**Cost Estimate**  
**Supplemental Remedial Action**  
**Dutch Boy Site**  
**Chicago Illinois**

	Units		\$/Unit	>1,400 mg/kg
4A Paved Area Concrete Removal (a)	3,250	SY	\$11.19	\$36,367.50
4B Clean and Stockpile Concrete	1	LS	\$19,684.00	\$19,684.00
5A Excavate Waste Materials > 1,400 mg/kg	1,150	CY	\$6.50	\$7,475.00
5B Onsite Treatment Soils >1,400 mg/kg	1,725	Tons	\$37.75	\$65,118.75
5C Reagent Cement (Est. 5% by Wt.)	87	Tons	\$425.00	\$36,975.00
5D Transportation & Disposal (Subtitle D)	1,812	Tons	\$30.00	\$54,360.00
8 Place, Compact Unclassified Fill	1,150	CY	\$16.00	\$18,400.00
9 Place Top Soil 3"	271	CY	\$25.00	\$6,775.00
10 Seed & Mulch	0.67	Acre	\$3,250.00	\$2,177.50
	Subtotal Soil T & D			\$247,332.75
11 Contractor Management	7.5% of Contractor Cost			\$18,549.96
12 Document Preparation	1	LS	Various	\$15,000.00
13 Project Management and Oversight	1	LS	Various	\$56,000.00
	Subtotal Estimate			\$336,882.71
12 Contingency	10% Subtotal Estimate			\$28,088.27
	TOTAL Estimate			\$364,970.98

**Assumptions:****Task**

- 4A Concrete removal only from paved areas with lead concentration above 1,400 mg/kg (SS19, SS25, SS26, SS27, and SS28) and assumes that concrete is at least one-foot thick.
- 5A Excavated soil will be stockpiled into units consisting of 100 cubic yards that will be sampled and tested for TCLP lead. Only soil that has been identified as exceeding 1,400 mg/kg will be removed.
- 5B A conversion factor of 1.35 tons per cubic yard is being used (1,800 cubic yards multiplied by 1.35 tons/cubic yards = 2,430 tons. 100% of the volume of excavated soil will require treatment prior to disposal (TCLP lead analysis is greater than 5 mg/l).
- 5C 5% by weight of reagent will be required to treat lead contaminated soil to meet current disposal restrictions prior to disposal.
- 5D TCLP lead analysis on treated soil must be less than 5.0 mg/l for disposal in Subtitle D Landfill.
- 11 Project management and oversight includes analytical costs for 32 confirmation samples for total lead (includes 3 duplicates) and 25 TCLP lead samples (includes 3 duplicates) for untreated and treated soil stockpiles.

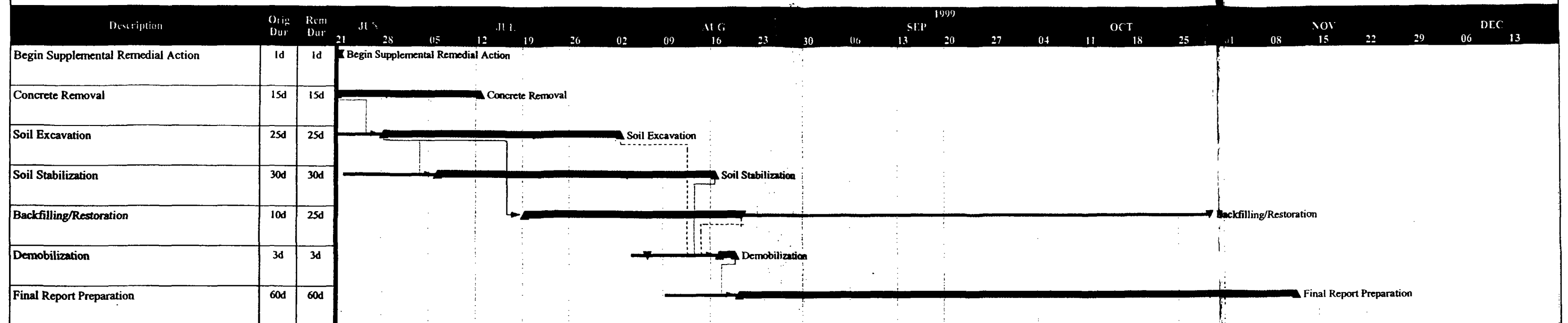
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a/LS = Lump Sum, CY = Cubic Yard, SY = Square Yard, mg/kg = milligram per kilogram,  
 mg/l = milligram per liter, TCLP = toxicity characteristic leaching procedure

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**Appendix C - Schedule**

**Project Schedule**  
**Dutch Boy Site**  
**Supplemental Remedial Action**  
**Chicago, Illinois**



- ▲ Early start point
- ▼ Early finish point
- Early bar
- ▼ Late finish point
- Total float bar
- Progress bar
- Critical bar
- Summary bar
- Progress point
- Critical point
- ♥ Summary point
- ◆ Start milestone point
- ◆ Finish milestone point

**ESC**  
**Environmental Strategies Corporation**  
**Reston, Virginia**





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF

**VIA CERTIFIED MAIL**  
**AND FACSIMILE**

August 2, 2002

Terry Casey  
Efficasey Environmental, LLC  
14015 Park Drive, Suite 109  
Tomball, Texas 77375

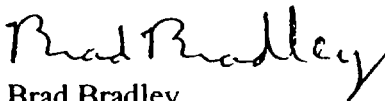
Re: In the Matter of Dutch Boy Site, Chicago, Illinois  
Docket No. V-W-'96-C-347

Dear Mr. Casey:

This letter is written as a follow-up to my February 28, 2002 letter to you. The U.S. Environmental Protection Agency (EPA) has reviewed pertinent data and information with respect to the high lead levels in surface soils at the Dutch Boy Site, in Chicago, Illinois (the Site) and is reiterating its requirement in the February 28, 2002 letter that NL Industries immediately take all appropriate action to prevent, abate, or minimize the endangerment caused or threatened by this release. EPA is requiring NL Industries to take this action pursuant to Article V, Section 8, of the Unilateral Administrative Order for the Site issued to NL Industries by EPA and referenced above.

Accordingly, please contact me at (312) 886-4742 at your earliest convenience to arrange a meeting to discuss actions that NL Industries plans to take to abate the endangerment caused by this release of lead to the environment.

Sincerely,

  
Brad Bradley  
On-Scene Coordinator

cc: Marcus A. Martin, Esq.  
Counsel for NL Industries











[illegible]



[illegible]





City of Chicago  
Richard M. Daley, Mayor

Department of Environment

Twenty-fifth Floor  
30 North LaSalle Street  
Chicago, Illinois 60602-2575  
(312) 744-7606 (Voice)  
(312) 744-6451 (FAX)  
(312) 744-3586 (TTY)  
<http://www.ci.chi.il.us>

May 31, 2002

U.S. Environmental Protection Agency  
Ms. Carol Ropski  
Emergency Enforcement and Support Section, SE-5J  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590

**Subject: Information Pursuant to Section 104 of CERCLA for  
Dutch Boy Site in Chicago, Illinois**

Dear Ms. Ropski:

Enclosed are the City of Chicago's responses to U.S. EPA's CERCLA 104(e) request for information in connection with the Dutch Boy Site. The City's recent involvement with the site is set forth in those responses. The City welcomes this opportunity to formally provide you with the requested information and City representatives are available to answer any questions that you may have about the response.

It is the City's assumption that U.S. EPA has issued this request for information because of the City's unexpected discovery of additional hazardous waste at the site in 2001 while preparing the site for redevelopment. As you will see during your review of the enclosed information, the City has been actively pursuing the clean-up of the Dutch Boy Site for many years under the Chicago Brownfields Initiative. The City also has a long history of legal enforcement against the Site and its previous owners and operators prior to approaching it from a brownfields redevelopment perspective.

The Dutch Boy Site is located within the West Pullman Industrial Redevelopment Area - 220 acres of largely abandoned and derelict land located on the south side of Chicago. The City has been focused on this area under the Chicago Brownfields Initiative since 1996. During this time we have acquired over 80 acres of land, most of which we have assessed and begun cleaning-up in preparation for redevelopment. We have also installed new sewers, water mains, roads and street lights. Our ultimate vision for West Pullman is a modern industrial park providing valuable jobs, economic development and community revitalization.

The City is financing the redevelopment of West Pullman largely through a \$20 million loan from the U.S. Department of Housing and Urban Development. We have also used a \$950,000 Supplemental Environmental Project from the U.S. EPA and, as appropriate, entered into cost-sharing agreements and legal settlements with the parties responsible for causing the contamination.

I'm sure you will agree that the City's recent activities in West Pullman, and on the Dutch Boy Site, are in harmony with U.S. EPA's stated goals regarding brownfields redevelopment.



I believe the enclosed information thoroughly addresses the questions posed in your 104(e) request for information. I would like to make sure the following two points are clear, however.

1. **The City of Chicago did not generate any of the hazardous waste located on the Dutch Boy Site.** The City's historic activities on the site were strictly enforcement in nature, focused on eliminating the dangerous and illegal conditions associated with an abandoned, dilapidated chemical plant. The City's more recent activities, performed under the auspices of the Chicago Brownfields Initiative, have all been consistent with an end-goal of preparing the site for future redevelopment. At the risk of stating the obvious, National Lead's historic operations at the Site are the likely genesis of the remaining hazardous waste.
2. **At no time did the City of Chicago agree to leave or maintain concrete slabs on the Dutch Boy Site.** The City's position, repeatedly stated but most clearly articulated in the attached letter from me dated January 19, 1999, is that having a cap over a large portion of the site would virtually assure that the property would not be productively redeveloped and put back on the tax rolls. The City held this position in meetings with both the U.S. EPA and National Lead. As you will find in reviewing the attached information, the City tailored National Lead's responsibilities under the Consent Decree to specifically eliminate the need for a cap to remain in place. Our discovery of additional hazardous waste under the slab was unexpected and inconsistent with the analytical data available to us for the site.

National Leads' Operations and Maintenance Plan for the Dutch Boy Site, dated March 12, 2002 and requiring the City's ongoing maintenance of the former concrete slab is, at best, a disingenuous ploy by National Lead to somehow make the City responsible for the hazardous waste generated by their historic operations at the site. Not only was the plan delivered to the City nearly three years after the Consent Decree was entered, it includes requirements (such as a prohibition on additional soil sampling) that are in direct contradiction with the City's responsibility under the Consent Decree to pursue a No Further Remediation letter for the Site from the Illinois Environmental Protection Agency. Further, National Lead developed the plan in a vacuum without consulting with the City at any time.

I am certain that as you review the facts surrounding the Dutch Boy Site you will recognize that National Lead was the generator of the hazardous waste remaining on the site and, accordingly, they are responsible for its removal.

If you have any questions, or if you require additional information, I can be reached at 312/744-9139. I look forward to working with you to bring this matter to a prompt closure.

Respectfully,

  
David J. Reynolds, P.E.  
Deputy Commissioner



# **Efficasey Environmental, LLC**

Efficacy, *n.*, "Power to produce the intended effect."

Terry S. Casey  
14015 Park Drive, Suite 109  
Tomball, TX 77375  
Phone: (281) 351-9441  
Fax: (281) 351-9447

## **VIA FACSIMILE AND EXPRESS MAIL**

May 10, 2002

Mr. Brad Bradley  
USEPA – Region V  
5-SR-6J  
77 West Jackson Blvd.  
Chicago, IL 60604-3507

Re: Dutch Boy Site, Chicago, Illinois  
Docket No. V-W-'96-C-347

Dear Mr. Bradley:

This letter is in response to your letter, dated February 28, 2002 and received (with pertinent attachments) on March 11, 2002. Your letter states:

*In EPA's April 23, 1999 Remedial Design/Remedial Action Work Plan approval letter, EPA stated that areas of the Site that are currently covered by asphalt were to be either patched or resurfaced, or that hot spot removal to 1400 ppm lead was to be performed in these areas.*

Consistent with your comment and with the approved Remedial Design /Remedial Action (RD/RA) Work Plan, NL removed all exposed soil at the site that exceeded 1,400 mg/kg total lead. Additionally, NL chose to remove and excavate the asphalt areas rather than simply meet the less expensive option of patching the asphalt. Indeed, all areas of the Site that were not capped by concrete were excavated to depth, sampled to ensure that the remedial action objectives had been met and backfilled to original grade with clean soil.

Based on this work alone, NL certainly met its obligations under the approved RD/RA Work Plan and its obligations for the onsite work required by the Unilateral Administrative Order (UAO). However, NL performed significantly more work than was required by the approved RD/RA Work Plan.

Your letter mentions the consent decree between NL and the City of Chicago (City). Pursuant to this consent decree, NL submitted, and received EPA approval, and City concurrence, for a Supplemental Remedial Action (SRA) Work Plan. In addition to the approximately 10,000 tons of lead contaminated soil removed under the original RD/RA Work Plan, NL:

- Removed, cleaned and stockpiled and over 3,200 square yards of concrete;
- Excavated 100% (>3,000 tons) of the  $\geq 1,400$  ppm lead soils under this previously-paved area;

Mr. Brad Bradley  
May 9, 2002  
Page Two

- Backfilled, seeded and mulched the excavated area; and,
- Removed and disposed of sludge and sediment in the basement of the Former Mill Building;

Once again, I emphasize that this was work completed in addition to the work required under the approved RD/RA Work Plan and that NL would have met the onsite requirements of the UAO without this additional work.

Your letter further states:

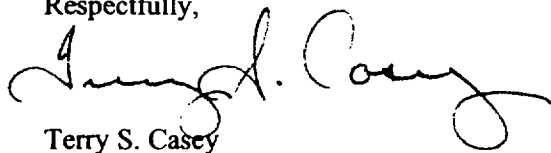
*Removing the paving materials and failing to fully remove lead-impacted soil beneath these previously-paved areas causes or threatens to cause an additional release of hazardous substances from the Site or an endangerment to the public health, welfare, or the environment.*

If one did not know better, the statement would seem to imply that NL removed the paving. Both NL and EPA know that the City removed the paving and exposed the "previously-paved" areas. Consequently, any subsequent exposure is due to the City's failure, per the consent decree, to operate and maintain the EPA-approved remedial action.

In summary, NL fully executed its onsite remedial obligations as detailed in the EPA-approved RD/RA and SRA Work Plans. In a letter dated March 27, 2000 (attached), EPA confirmed completion of this obligation and complimented the participants on a job well done. Consequently, NL is outraged that the City is attempting to use the good offices of EPA to foist onto NL its failure to properly operate and maintain the approved remedial action. NL returned a remediated site to the City. The City was responsible for properly operating and maintaining the Site. The City has failed in its obligation and is, therefore, responsible for any additional remedial requirements caused by their failure to adequately maintain the approved remedial action.

Please feel free to contact me with any questions.

Respectfully,



Terry S. Casey

TSC:krr

cc: (Facsimile and U.S. Postal Service)  
Marcus Martin, Highland Environmental  
Brian Bossert, City of Chicago  
David Reynolds, City of Chicago



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

March 27, 2000

REPLY TO THE ATTENTION OF:

Barbara Wong  
Senior Technical Manager  
Environmental Strategies Corporation  
11911 Freedom Drive  
Reston, Virginia 20190

Dear Ms. Wong:

The U.S. Environmental Protection Agency (EPA) hereby approves the December 22, 1999 "Remedial Action Report- Dutch Boy Site- Chicago, Illinois". EPA would also like to thank everyone involved in the project from ESC and RSI for a job well done. Even with a greatly increased scope, work was still completed in a timely fashion. Additionally, dust control efforts on the project were excellent, especially given the high temperatures and drought conditions in the Chicago area during the summer of 1999.

Please contact me at (312) 886-4742 if you have any questions concerning this letter.

Sincerely,

A handwritten signature in cursive script that reads "Brad Bradley".

Brad Bradley  
On-Scene Coordinator

cc: Kirk Riley, TOSC  
VH/MP Advisory Council c/o Tony Davenport

BCWD 4/3/00  
A handwritten signature in cursive script that reads "Brad Bradley", enclosed in a circle.

Exhibit N



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF

**VIA CERTIFIED MAIL**  
**AND FACSIMILE**

August 2, 2002

Terry Casey  
Efficasey Environmental, LLC  
14015 Park Drive, Suite 109  
Tomball, Texas 77375

Re: In the Matter of Dutch Boy Site, Chicago, Illinois  
Docket No. V-W-'96-C-347

Dear Mr. Casey:

This letter is written as a follow-up to my February 28, 2002 letter to you. The U.S. Environmental Protection Agency (EPA) has reviewed pertinent data and information with respect to the high lead levels in surface soils at the Dutch Boy Site, in Chicago, Illinois (the Site) and is reiterating its requirement in the February 28, 2002 letter that NL Industries immediately take all appropriate action to prevent, abate, or minimize the endangerment caused or threatened by this release. EPA is requiring NL Industries to take this action pursuant to Article V, Section 8, of the Unilateral Administrative Order for the Site issued to NL Industries by EPA and referenced above.

Accordingly, please contact me at (312) 886-4742 at your earliest convenience to arrange a meeting to discuss actions that NL Industries plans to take to abate the endangerment caused by this release of lead to the environment.

Sincerely,

A handwritten signature in black ink that reads "Brad Bradley". The signature is written in a cursive, flowing style.

Brad Bradley  
On-Scene Coordinator

cc: Marcus A. Martin, Esq.  
Counsel for NL Industries

Exhibit O

# **Efficasey Environmental, LLC**

*Efficacy, n., "Power to produce the intended effect."*

Terry S. Casey  
14015 Park Drive, Suite 109  
Tomball, TX 77375  
Phone: (281) 351-9441  
Fax: (281) 351-9447

August 12, 2002

Via Facsimile and Express Mail

Mr. Brad Bradley  
U.S. Environmental Protection Agency  
Region V, 5-SR-6J  
77 West Jackson Blvd.  
Chicago, IL 60604-3507

Re: Dutch Boy Site, Chicago Illinois  
Docket No. V-W-'96-C-347

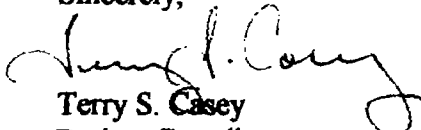
Dear Mr. Bradley:

This letter responds to your August 2, 2002 letter demanding that NL take unspecified action at the former Dutch Boy Site. Our attempts to contact one another on Thursday and Friday, August 8 and 9, and my attempt to contact you today have been unsuccessful. We are attempting to determine who the EPA's legal counsel is for this matter so as to deal with him/her, or another designee, during your absence. So far, we have been unsuccessful in this effort.

As you have requested, we would like to schedule a meeting with the appropriate individuals as soon as possible. As in the past, NL intends to comply fully with its legal obligations with respect to this site.

Please contact me at your earliest opportunity.

Sincerely,

  
Terry S. Casey  
Project Coordinator

cc: Marcus A. Martin, Esq.

Exhibit P



March 14, 2002

**BY FEDERAL EXPRESS**

Brian D. Bossert  
Assistant Corporation Counsel  
30 North LaSalle Street, Suite 900  
Chicago, IL 60602

Re: 12000 S. Peoria Street, Chicago, IL

Dear Mr. Bossert:

NL completed the Remedial Action for the above-referenced site in 1999. US EPA approved NL's work in March 2000. Section IX of the Consent Decree between the City of Chicago and NL Industries, Inc. (No. 91 CH 4534) entered on June 30, 1999 requires the City to perform Operation and Maintenance of the remedy. Enclosed is the Operation and Maintenance Plan that Environmental Strategies Corporation has prepared for the Remedial Action work.

As both the owner of the property and as required by the Section IX of Consent Decree, the City must maintain the remedy that NL has installed. Proper maintenance pursuant to the O&M Plan is extremely important. NL incurred in excess of \$1.5 million to comply with the US EPA's unilateral order and the NL/Chicago Consent Decree to address the environmental concerns at the property. On March 27, 2000, US EPA's On-Scene Coordinator, Brad Bradley, approved NL's work and complimented NL on a "job well done" in a timely fashion despite the "greatly increased scope" of the job. We worked hard to please US EPA, and now that the environmental issues are resolved to US EPA's satisfaction, it's up to the City to maintain the site in accordance with the O&M Plan.

Finally, will you please update me at your convenience with respect to the City's compliance with Section VIII of the Consent Decree.

Very truly yours,

A handwritten signature in black ink, appearing to read "Marcus A. Martin".

Marcus A. Martin

cc: Brad Bradley (w/encl.)



# KIRKLAND & ELLIS

PARTNERSHIPS INCLUDING PROFESSIONAL CORPORATIONS

655 Fifteenth Street, N.W.  
Washington, D.C. 20005

202 879-5000

Facsimile:  
202 879-5200

Gerald F. Masoudi  
To Call Writer Directly:  
(202) 879-5910  
gerald\_masoudi@dc.kirkland.com

September 9, 2002

**COPY VIA FACSIMILE**  
**ORIGINAL VIA FEDERAL EXPRESS**

N. Marcia Jimenez  
Commissioner  
City of Chicago  
Department of the Environment  
30 North LaSalle Street, Suite 2500  
Chicago, IL 60602-2580

Brian D. Bossert  
Assistant Corporation Counsel  
City of Chicago  
30 North LaSalle Street, Suite 900  
Chicago, IL 60602-2580

*Re: Former Dutch Boy Facility, 12000 S. Peoria, Chicago, IL*

Dear Ms. Jimenez and Mr. Bossert:

I represent NL Industries, Inc. ("NL"). NL has received information, set forth below, that indicates that the City of Chicago (City) is intentionally and improperly attempting to thwart the contractual and legal rights of NL with respect to the above-referenced property under the Consent Decree between the City of Chicago and NL Industries, Inc. entered by the Honorable Sidney A. Jones III on June 30, 1999 in the Circuit Court of Cook County, Illinois (No. 91 CH 4534) ("Consent Decree" or "Decree"). The purpose of this letter is to notify the City pursuant to Section X of the Consent Decree that a dispute exists under the Consent Decree.

As you will recall, in 1999, NL, the City and US EPA officials met in order to establish a framework for resolution of the environmental issues at the property. With the personal assistance of David A. Ullrich, US EPA's Deputy Regional Administrator, the parties were able to resolve the issues with respect to the property in a matter that

September 9, 2002

Page 2

ultimately resulted in a settlement of the NL/Chicago litigation and that resulted in NL's prompt cleanup of the property to the satisfaction of both the US EPA and the City. The terms of the settlement are embodied in the Consent Decree. In particular, the Consent Decree sets forth the respective obligations and rights of NL and the City with respect to environmental conditions at NL's former facility at 12000 S. Peoria Street in Chicago. In addition to its governmental role with respect to the property, the City has owned this property since 1996 and is redeveloping the property.

The Consent Decree required, among other things, that NL complete the on-site work ordered by the US EPA and that NL perform additional work requested by the City. The limit of NL's expenditures for the work requested by the City was \$400,000. The City is responsible for work in excess of this amount (though NL, in fact, incurred costs in excess of \$400,000 for performing the additional work). NL received a release of liability from the City for the conditions at the property.

NL successfully completed the required work under US EPA supervision in 1999. The US EPA approved completion of NL's on-site work in March 2000 (See Exhibit A). The US EPA congratulated NL "on a job well done" that was completed "in a timely fashion" despite a greatly increased scope of work (Exhibit A). Section IX of the Consent Decree requires that the City maintain the property and the remedy constructed by NL after completion of the work.

Since NL's completion of the remedy, NL had no involvement with the property until it received notices from the US EPA dated February 28, 2002 and August 2, 2002 that a release of hazardous substances had occurred. The US EPA has directed NL to remediate the conditions created by the post-March 2000 releases caused by the City and its contractors (See Exhibit B).

On May 31, 2002, the City, through its representative David J. Reynolds, submitted the City's response to the US EPA's CERCLA 104(e) request for information concerning the alleged releases that occurred at the property after completion of NL's cleanup work in March 2000. The City's response sets forth in detail numerous instances in 2000 and 2001 when the City and its contractors removed the remedial cap approved by US EPA as the remedy for the site and exposed soils containing lead without properly remediating the exposed soils. This City-directed activity was done without NL's knowledge, approval or involvement.

Rather than step up and address the US EPA concerns about the improper and unauthorized work performed in 2000 and 2001, the City apparently is actively engaged in an effort to convince US EPA to order NL to perform the work to address these newly-created releases although it is clear that the City is the true responsible party. In the City's May 31, 2002 letter to US EPA, Mr. Reynolds explicitly encourages US EPA to direct NL to undertake the work required to correct the City's improper work. This conduct constitutes bad faith and is designed (i) to thwart the Consent Decree obligations that clearly require the City to pay for all site costs in excess of the agreed-upon \$400,000 cap, which has been reached; and (ii) to avoid the obligations set forth in Section IX requiring the City to maintain the US EPA-approved remedy for the site.

The City's intentional disregard for its obligations is further demonstrated by its refusal to attend a meeting scheduled for September 17, 2002 at US EPA's office in order to discuss the current problems posed by the City's actions. US EPA's counsel, Christine Liszewski, has invited both NL and the City to attend the meeting. NL intends to participate in the meeting. George Theophilos has informed US EPA that the City will not attend the meeting. As the current property owner and the responsible party for the post-March 2000 releases, the City's refusal to meet with US EPA and to accept responsibility for the conditions it has created will be highlighted to the court if NL is forced to seek judicial enforcement of the Consent Decree.

NL has a complete defense to liability for this matter under CERCLA Section 107(b)(3) because the City caused the release. Further, as noted above, the Consent Decree clearly places on the City all costs in excess of \$400,000. Moreover, the Consent Decree obligates the City to maintain the approved remedy (See Consent Decree, Section IX), which the City has admitted it has not done. The City's activities are in direct violation of the Operation and Maintenance Plan for maintaining the integrity of the on-site remedy. Moreover, as the current owner/operator of the property, and the party who caused the release, the City clearly is responsible for 100% of the costs associated with the US EPA's demand under applicable law.

As a result, unless NL receives assurances from the City within 14 days from the date of this letter that it intends to respond fully to the demands by US EPA on NL and pay for all associated costs, as set forth in the EPA's letters dated February 28 and August 2, 2002, NL may avail itself of all available remedies, including judicial enforcement of the Consent Decree. If enforcement proceedings are necessary, pursuant to Section X of the Decree, we will seek all costs, including attorneys' fees, associated with the enforcement proceedings.

KIRKLAND & ELLIS

In addition, unless this matter is immediately resolved by the City, NL intends to raise with US EPA the City's improper conduct, which damaged the remedy NL implemented, and which caused the release of hazardous substances, as well as the City's unjustified refusal to meet with NL and the US EPA to develop an appropriate plan to respond to the current situation. We also intend to inform these individuals of the City's attempts to improperly influence the administrative process, as clearly set forth in the City's 104(e) response, as well as the City's disregard of its contractual and legal responsibilities as the current owner to address the conditions at the property. NL will seek US EPA's assistance instituting the proper enforcement action against the City to address the problems at the property.

Finally, this letter also serves as formal notice that the City is in breach of Section II(3)(f) of the Consent Decree. On March 8, 2002, NL submitted an invoice to the City in the amount of \$60,950.22 for additional work performed at the site by NL at the City's request. Without explanation, the City has failed to pay NL for this work within the required 60-day period. Therefore, unless NL receives full payment with 14 days, with interest due from May 7, 2002 through the date of payment as required by Section X(11) of the Decree, NL intends to file an action with the Circuit Court to enforce the provisions of the Consent Decree requiring the City to reimburse NL for these agreed-upon costs. If NL is forced to file such an action, NL will seek all enforcement costs, including attorneys' fees, due from the City under Section X of the Decree.

Please let me know if you have any questions. I look forward to your prompt response.


Sincerely,



Gerald F. Masoudi

GFM:djd

cc:

  
David A. Ullrich  
Bertram C. Fey  
Chris Liszewski



Sep-17-2002 09:45

From-CITY OF CHGO LAW DPT

9127446780

T-386 P.002/003 F-576



City of Chicago  
Richard M. Daley, Mayor

Department of Law

Mara S. Georges  
Corporation Counsel

Regulatory and Aviation  
Suite 900  
30 North LaSalle Street  
Chicago, Illinois 60602-2560  
(312) 744-9010  
(312) 744-6798 (FAX)  
(312) 744-9104 (TTY)  
<http://www.ci.chi.il.us>

September 17, 2002

**VIA FACSIMILE & U.S. MAIL**

Mr. Gerald Masoudi  
Kirkland & Ellis  
655 Fifteenth Street, N.W.  
Washington, D.C. 20005

**RE: Former Dutch Boy Facility**

Dear Mr. Masoudi:

I am responding to your letter to Commissioner Jimenez and Brian Bossert dated September 9, 2002. (Brian Bossert is no longer with this office.) Obviously, we disagree with your characterizations and the misrepresentations contained in your letter.

NL's contention that the City is somehow now responsible for complying with the UAO is not only illogical, but unsupported anywhere in the Consent Decree. You reference Section X of the Consent Decree in support of your position. But, that section plainly states that NL is responsible for all cleanup activities required pursuant to U.S. EPA's Unilateral Administrative Order. Mr. Bradley's letter of August 2, 2002 (which we saw for the first time as an attachment to your letter) plainly states that NL is being ordered to take additional action pursuant to the UAO for the Site. Since the work is being ordered pursuant to the UAO, it is clear under the Consent Order that NL, not the City, is responsible for this cleanup.

Further, NL's position that the City is obligated to comply with NL's O&M Plan -- which NL apparently prepared three years after entry of the Consent Decree with absolutely no discussion with, notice to, or input from the City -- is absurd. What the City agreed to do as part of the Consent Decree was to pay for the "operation and maintenance costs" of the Site unrelated to U.S. EPA's UAO and the City has done so. The City's "operation" of the property is entirely consistent with the City's longstanding intention to prepare the property for redevelopment. Well before entry of the Consent Decree, NL was aware of the City's intentions and NL knew that the City would have to remove the existing concrete in order to redevelop the site. The City never agreed to leave the remaining concrete in place, NL never asked the City to leave it in place, and nowhere does the Consent Decree say that the concrete shall remain in place. Nor did NL seek or request any deed restriction for the property. That all being said,



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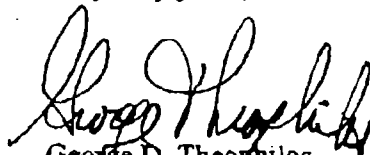
the City only went ahead and removed the concrete because it relied upon the data provided by NL indicating that there was no material there that exceeded the lead levels established by U.S. EPA. It was only after the concrete was removed that it became evident that there was material under the concrete with excessive lead levels. Your statement that the City performed improper and unauthorized work is totally unfounded and outrageous. The City could just as easily accuse NL of intentionally misleading the City and U.S. EPA about the environmental condition of the soil under the slab. While such cheap shots may be easy to make, they hardly serve to advance resolution of the issue.

The bottom line is that NL contaminated the soil, not the City. NL is being required to clean up the contamination it caused. This is a just and proper result. Your letter attempts to stand logic and equity upside down. The City's only role has been to try and put this contaminated property back into productive use.

Nevertheless, the City remains willing to discuss the issue with you further. While I did initially decline on behalf of the City to attend the upcoming meeting with U.S. EPA, you neglected to mention that I also told Chris Liszewski at the time that the City would be happy to meet directly with NL and discuss the situation if NL wanted to do so. We received no response from NL to our invitation until your letter. And, upon further consideration, the City is even willing to meet with NL and U.S. EPA together, if that is NL's preference.

Finally, we have reviewed NL's claim for \$60,950.22 for the concrete removal work it performed. We do agree that NL is entitled to payment and the Department of Environment is processing this invoice for payment. Should you desire to meet with the City to discuss this matter further, please feel free to contact me at (312) 742-0306. Thank you.

Very truly yours,

  
George D. Theophilos  
Senior Counsel

cc: Commissioner Marcia Jimenez  
Deputy Commissioner David Reynolds  
Diane Pezanoski, Deputy Corporation Counsel  
Chris Liszewski, U.S. EPA